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This report is devoted to the description of the results of the experimental investigation of alumina particles phase transitions. Time dependence of spectral radiance of rapidly cooling ($3x10^3$ K/sec) melted alumina particles was measured and analysed. Due to the cooling the particles were passing through different phase states during the measurements. Particle spectral radiance was measured in the wide spectral range from ultraviolet to near infrared region (0.26-1.6 μm) in the spectral intervals where different mechanisms are rresponsible for the particle radiation.

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I.N.MURSINOV

Experimental Investigation of Alumina Particles' Phase Transitions

FINAL REPORT

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1996

This report was written by

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CONTENTS

INTRODUCTION

This report is devoted to the description of the results of the experimental investigation of alumina particles phase transitions. Time dependence of spectral radiance of rapidly cooling ($3x10^3$ K/sec) melted alumina particles was measured and analysed. Due to the cooling the particles were passing through different phase states during the measurements. Particle spectral radiance was measured in the wide spectral range from ultraviolet (UV) to near infrared (IR) region (0.26-1.6 μm) in the spectral intervals where different mechanisms are responsible for the particle radiation:

$\lambda<0.4$ μm – region of the fundamental absorption;

0.4 μm $<\lambda<1$ μm – region where free-free transitions prevail over others absorption mechanisms;

1 μm $<\lambda$ – where lattice absorption is responsible for radiation.

The particle temperature was determined basing on the spectral radiance data in every stage of its cooling in different phase states. Dependence of spectral absorption coefficient $k(\lambda)$ on temperature and phase state has been evaluated from the experimental data. Phase transition rates for "liquid to γ-phase" and for "γ to α-phase" have been also evaluated from the experimental data.

1. EXPERIMENTAL INSTALLATION.

Detailed description and specification of the installation for measuring of the alumina particles radiation is given in [1]. For better performance and enhancing of the experiment efficiency some modifications have been done in the optical channels of the installation. To provide the possibility of observing the particle by all instruments from the same side special mirror objective has been designed and manufactured. The objective specification is as follows:

wavelength region - 200 nm to far IR
focal length - 54.7 mm
relative aperture, D/F - 1:1
point object image diameter - 0.01 mm
magnification - 20.4

Special mask with two rectangular openings covered the main mirror of the objective. As the result, two radiation bunches were formed by the same objective. One of the bunches entered into UV-channel and another one entered into IR/visible channel. The final version of the installation layout is given in Fig.1. The figures on the picture indicate the installation composites:

1 - the chamber with UV-transparable quartz window and two TlBr/TlCl IR-transparable windows (absolute transparency is about 20% in the region from 0.8 to 25 μm);

2 - alumina particle of 1.2-1.6 mm diameter fused from alumina powder of 40 μm grain size;

3 - CO_2 multimode laser (λ=10.6 μm, W=45 W, beam diameter ~ 7 mm;
4 - spherical mirror (D=100 mm, F=50 mm) for focusing the laser beam onto the particle;
5 - metal blind blocking the laser beam for less than 2 μs;
6- filament lamp providing light synchronisation pulse through the slit in the metal blind;
7 - photodiode, forming the voltage synchro-pulse upon the laser beam blocking;
8 - synchronisation unit;
9 and 10 - achromatic lenses (F=75 mm and F=150 mm), imaging onto the screen (11) the particle "side" and "from above" views correspondingly;
12 - video camera;
13 - the mirror objective;
14 - the mask with two rectangular openings;
15 - outside rotating aluminium mirror;
16 - 2x2 mm^2 diaphragm (as the particle was projected onto the diaphragm with 21^x magnification, the diaphragm cut out the area of 0.1x0.1 mm^2 at the centre of the particle);
17 - achromatic quartz lens (F=75 mm) providing the diaphragm image on the entrance slit;
18 - semitransparent quartz plate;
19 - monochromator, incorporating asymmetrical Faste optical scheme (wavelength region 200 - 2000 nm, relative aperture 1:6, 1200 grooves/mm grating, F=600 mm collimator);
20 - photomultipliers with multialkali and caesium telluride photocathodes;
21 - digital oscilloscope;
22 - digital voltmeter;
23- parallel interface IEEE-488;
24- computer;
25- video camera, shooting magnified particle image at the diaphragm (16);
26- pyrometer lens:
27- pyrometer, measuring particle colour temperature in visible spectral region;
28 - dual-disperse IR scanning spectrometer (0.4 - 20 μm spectral range) with revolving angle-shaped reflectors located at the first focal plane;
29 - the IR spectrometer entrance slit, its 2x2 mm^2 opening set up in the experiment corresponded to 0.1x0.1 mm^2 particle area cut out;
30 - mirror collimator (relative aperture 1:5, focal length F=350 mm);
31 - dispersing unit - echelettes of 300, 100, 50, 24, 12 grooves/mm, providing 0.004, 0.013, 0.026, 0.055 and 0.111 μm/mm of reverse dispersion correspondingly;
32 - mirror;
33 - wavelength scanning revolver with angle-shaped reflectors, providing the scanning rates of 100, 200, 400 and 800 spectra/sec;
34 - rotating mirrors;
35 - entrance slits of the IR spectrometer;
36 - optical filters for discrimination of not working spectrum orders;
37 - optical projective systems and changeable radiation detectors (photomultipliers with multialkali and Ag-O-Cs photocathodes, Ge-photodiodes;
38 - optical scheme triggering the scanning procedure in two adjacent spectral regions;
39 - pre-amplifier;
40 - IR spectrometer interface;
41 - printer.

The pyrometer (27) measured colour temperature of the projected part of the particle and was mostly used for on-line temperature control, especially when the laser was

on. Exact values of real temperature were deduced from the spectrometric data obtained by the monochromator (19) and IR spectrometer (28).

All optical instruments were routinely calibrated across a certified radiation source (tungsten filament lamp) provided by Russian Institute for Optical Measurement Standards. The lamp radiation was specified with 2% relative accuracy at the wavelength λ=0.6563 μm and 6% in the region 250-400 nm. The lamp was placed in the chamber instead the particle during the calibration.

2. RESULTS OF ALUMINA PARTICLES SPECTRAL RADIANCE MEASUREMENTS.

2.1 Measurements of the radiance in the process of particle cooling and phase transition.

Results of the radiance B_λ (W/cm^2.sr. μm) measurements are represented in the form of time profiles inTables 1-23 and in the smoothed appearance in Fig.2-29, starting from melted state and ending the stable α-phase formation. The results obtained by the UV monochromator and IR spectrometer are separated. IR spectrometer spectra were scanned with the rate of 1 scan per 8 msec, so the scanning time is quite short in comparison with the characteristic time (>10 msec) of the particle phase evolution and transitions. Scanning regions of the spectrum referred as scan-1 and scan-2 in the tables. Spectral resolution of the UV monochromator was 2.6 nm in region 0.26-0.5 μm and 5.2 nm - in 0.6- 1.2 μm.. For the IR spectrometer it was 8 nm in 0.26 - 0.5 μm and 26 nm - in 0.6-1.2 μm.. Entrance slit of the UV monochromator and so IR spectrometer cut out 2×2 mm of the particle intermediate image which was of 36 mm in diameter. Spectral radiance in the region 0.26-0.4 μm was measured with accuracy of ±8% and in the region λ>0.4 μm the accuracy was ±4%.

2.2. Radiance measurements in stationary state.

Two different states (referred as state 1 and state 2) of the semi-melted alumina particle were observed while the laser was on. Brightness of the particle solid part was different in these states. Image of 1.5 mm diameter particle in the state 1 is given in Fig.38, while the same particle image in the state 2 is given in Fig.39. Undertaken analysis resulted in conclusion that the solid part of the particle in the state 1 was in γ-phase, while it was in α-phase in the state 2.

Spectral radiance B_λ along the central line perpendicular to the phase separating boundary has been obtained. The B_λ experimental data for the particle in the states 1 and 2 are presented in Fig.40,41 and table 25-27 and so ε_λ, κ_λ .

3. EXPERIMENTAL DATA ANALYSIS.

3.1. Determination of the real temperature.

Several different methods [1] were used for real temperature calculation basing on the experimental data. Such approach provided an opportunity to calculate the temperature all over the cooling/phase transitions process with maximum reliability. Following meanings are used in this report to differ the temperatures calculated by different methods:

T_R - thermal balance method;

$T_{0.63}$ - the method of temperature calculation from well known dependence of B_λ on temperature assuming the λ=0.63 μm and that $\varepsilon(\lambda=0.63)$ is available;

$T_{0.26}$ - the method of temperature calculation from the B_λ on T dependence at the wavelength 0.26 μm assuming the radiative media is optically very thick at this wavelength.

Results of the temperature determination basing on different methods are given in Fig.30 (a,b),31 and in table 24 for particles of 1.2 mm and 1.5 mm diameter. The specific phases of the observed process are pickted on Fig. 32 (their phisical sense will be described in section 3.2).Analysis of these data results in following conclusions.

1. The T_R and $T_{0.26}$ values are in a good accord (inside the error bar ± 10 K) at the stage of particle cooling.
2. The temperature $T_{0.26}$ stays constant in the limits of measurement accuracy $T_{0.26}$=2310±15 K along third stage of the process (Fig.32), corresponding to real temperature in phase transitions "liquid to γ", "γ to α" . The temperature $T_{0.26} \cong$ 2327 K during 4-th phase for along $\Delta t \approx$ 120...130 ms and corresponds to the real temperature at the place of "$\gamma \rightarrow \alpha$" transition. Further it decreases to value $T \approx$ 2310 K when the "liquid $\rightarrow \gamma$" transition is completed in the particle (5-th phase).
3. The temperature $T_{0.26}$ at the maximum undercooling point is 2272±25 K and equals to real temperature in the front of crystallisation wave, while it's moving along the particle surface.
4. The temperatures $T_{0.63} \cong T_R$ are close to each other and eqal to real one T≅2240±12 K in the point of maximum undercooling right before the crystallisation process (phase 2).
5. Thus the real temperatures obtained on the basis of different methods are in accord between each other in the limit of experimental error in all stages of particle cooling and phase transitions.

3.2. Phenomenological description of the cooling and phase transition processes observed in the experiment.

One can share out the following stages of the process at the typical radiation time profile taken from the centre of the particle (see Fig.32).

Phase 1. Particle cooling from initial temperature $T_0 > T_m$ (T_m is the melting point) down to minimum undercooling temperature T_1.

Phase 2. Rise of the particle radiance corresponding to the temperature rise from T_1 to the plateau T_2- T_3. The particle brightness in the time period of Δt corresponding to the plateau region is becoming stable as soon as the crystallisation rate is coming down resulted from the undercooling ($\Delta T = T_m - T_s$, where T_s is the particle surface temperature) decrease down to the value at which energy released in crystallisation compensates the radiative energy losses. This time dependence radiation profile may be used for the crystallisation rate evaluation.

Phase 3. Stationary state, corresponding to the particle constant temperature $T = T_2$. This state is observed until the crystallisation wave comes moving from the particle edge to its centre. Constant brightness and particle temperature in this stage is resulted from the balance between the radiative losses rate and the rate of the heat release at the front of the crystallisation wave (γ -Al_2O_3 formation) which is not yet in the instrument field of view.

Phase 4. Particle transition from the metastable γ -phase to the stable α -phase, which is being observed from the moment of the crystallisation front entering into the instrument field of view. At this stage the particle brightness is decreasing exponentially,

due to the γ -Al_2O_3 decay. The particle temperature is staying constant and equal to the $T=T_2$ until the complete transition of γ -Al_2O_3 into α -Al_2O_3.

Phase 5. Completion of the γ -Al_2O_3 decay and particle transition into α - state. The particle temperature is decreasing at this stage, as the radiative losses aren't compensated by the heat release related to Al_2O_3 γ– to α–phase transition. This can be seen in the radiance time profile (Fig.32) at the T_4 point where slope of the curve is changing.

Phase 6. Particle radiative cooling at the α–state. This is observed in changing the radiation profile curve slope at T_5 point.

All stages of the process are illustrated in Fig.33-35 where the particle digitised images are presented taken consequently one by one with interval 40 msec. Frame exposure time (1 msec) was quite small for the particle condition didn't change in this time.

Fig.36,37 depicts results of the video images scanning along the central line perpendicular to the crystallisation front. Joint analysis of these video images and radiation profiles (Fig.2-29,32) measured at the centre of the particle made it possible to find out the following additional important features of the processes of cooling and phase transition.

1. The particle has uniform brightness all over its surface (Fig.33) in the process of initial cooling (phase 1). This allows the same temperature to be affixed to each moment of time all over the particle surface. Therefore this stage may be used for calculation of the real temperature, basing on the energy balance equation for cooling particle.

2. At the initial moment, when laser is still on, a small part of the particle volume close to the pad is in solid state. There is boundary layer between the rest liquid part and the solid one. When the laser is off, crystal phase formation starts not in the particle volume, but from this boundary. This can be seen in Fig.34 where particle brightness at the boundary is being increased at the specified moment of time.

3. At the beginning of the crystallisation process crystallisation wave originated at the solid/liquid phase boundary propagates along the particle surface where small undercooling takes place, but not coming deep into the particle body. As the result, a thin layer of crystallised matter is being formed at the particle surface (see Fig.34). Evaluation of the layer thickness based on the particle video images gives the value of ~ 0.05 mm. After the layer formation the crystallisation process proceeds not from this layer into melted particle volume, but from the liquid/solid phase boundary involving all particle volume. This can be clearly seen on the corresponding particle images (Fig.35) and the image scans (Fig.36,37).

4. Process of γ -Al_2O_3 decay at the particle centre following the crystallisation front passing can be seen clearly in the video images. This is being displayed in the exponential decrease of the particle brightness in time.

5. Uniformly heated slowly cooling particle can be seen in the video right after the crystallisation process finishing.

3.3. Determination of Al_2O_3 optical characteristics ε_λ, K_λ and κ_λ

3.3.1. Determination of the optical characteristics in steady state (phase 3).

In accordance with the approach described in [1] the spectral emissivities ε_λ, absorptive coefficients K_λ and indexes k_λ were determined for the phase 3 steady state (see section 3.2) as follows:

ε_λ - from Kirghoff's law using measured value of spectral radiance B_λ and calculated real temperature;

K_λ - from expression (2) [1] with the use of measured ε_λ and Frenel reflection index calculated on the basis of known dependence of refractive index on T and λ, assuming that radiative layer thickness is also known (the particle diameter D);

k_λ - from the equation $K_\lambda = 4\pi\kappa_\lambda / \lambda$.

The results of ε_λ, K_λ and κ_λ determination are given in Tables 27,28.

3.3.2. Determination of the optical characteristics in the process of α to γ-phase transition (phase 4).

Optical indexes K_λ and k_λ were determined in the process of transition from γ to α-phase basing on the kinetic equation for 1st order reactions [2]

$$\frac{d f_\alpha}{d t} = b\, e^{-E/T} \tag{1}$$

where E=58368 K - activation energy for the process of γ to α decay;
b - constant, s^{-1};
f_α - the volume fraction of α-Al_2O_3;
t - current time in the process of γ-phase decay.

Using the equation (1) one can obtain the following expression for measured radiance:

$$B_\lambda = J_\lambda R_\lambda \left\{ 1 - \exp\left[-\frac{4\pi\kappa_\lambda D}{\lambda} \left(1 - bt \exp\left(-\frac{E}{T} \right) \right) \right] \right\} \tag{2}$$

where J_λ - Plank's function, R_λ - reflection index, D - particle diameter.

To determine the indexes K_λ, k_λ and transition rate constant *b* one can choose any two points t_1 and t_2 in the linear part (in semi-log scale) of the B_λ curve (see Fig.32, phase 4) in which following expressions may be deduced, after not very complex calculations.

$$K\lambda = \frac{1}{D} \cdot \frac{\left[\ln\left(\frac{1 - \overline{B_{2\lambda}}}{1 - \overline{B_{2\lambda}}} \right) - \left(1 - \frac{t_1}{t_2} \right) \cdot \ln\left(1 - \overline{B_{2\lambda}} \right) \right]}{1 - \frac{t_1}{t_2}} \tag{3}$$

$$\kappa\lambda = \lambda \frac{K\lambda \cdot 10^{-4}}{4 \cdot \pi} \tag{4}$$

$$b = \frac{\left(1 - \frac{t_1}{t_2} \right) \cdot \ln\left(1 - \frac{\overline{B_{2\lambda}}}{\overline{B_{1\lambda}}} \right) \cdot \exp\left(\frac{E}{T} \right)}{(t_2 - t_1) \cdot \left[\ln\left(\frac{1 - \overline{B_{2\lambda}}}{1 - \overline{B_{1\lambda}}} \right) - \left(1 - \frac{t_1}{t_2} \right) \cdot \ln\left(1 - \overline{B_{2\lambda}} \right) \right]} \tag{5}$$

where $\overline{B_{1\lambda}}$ and $\overline{B_{2\lambda}}$ - values of radiance at the moments of time t_1 and t_2 correspondingly (Fig.32, phase 4) referenced to the B_λ value at the T_2 point (steady state, phase 3); D - the particle diameter, mm; T - constant temperature for all over the time of phase transition processes ($T=T_2$).

The results of K_λ, κ_λ and b determination are given in tables

The following formulae was used to determine "liquid $\rightarrow$ $Al_2O_3(\gamma)$" crystallisation rate:

$$Vcr = dx / dt = a (T_m - T_S)^n \qquad (6)$$

where n=1,8 for ionic crystals of Al_2O_3, ZrO_2 type [3]. Thus, for a value one can write:

$$a = V_{cr} / (T_m - T_s)^{1.8} , \qquad (7)$$

where V_{cr} value resulted from analysis of video images and radiation profiles near the maximum undercooling point T_1 (see Fig.32), T_m - equilibrium melting temperature taken as T_m =2327 K. T_S - crystallisation front temperature, which equals to $T_{0.26}$ determined for the T_1 point of the radiance profile. It appeared to equal $T_S \cong 2273$ K. Corresponding crystallisation front velocity along the surface at the T_1 point appeared to equal V_{cr} =0,47 cm/s. Thus, one can obtain the $a = (2.7\pm0.9) \cdot 10^{-4}$ cm c^{-1} $K^{-1,8}$ applying the Vcr, T_S and T_m to formulae (7).

4. CONCLUSIONS AND PROPOSALS FOR FUTURE WORK.

The experimental results can be summarised shortly as follows:

- systematic data have been obtained on alumina particle spectral radiance in UV, visible and near IR regions for different phase states of the alumina, including transition from metastable γ–phase to stable α– phase;
- real temperatures have been determined all over the time of the phase transition from liquid to solid state;
- the estimations of the alumina optical characteristics ε_λ, K_λ and κ_λ for liquid and γ-phase in UV, visible and near IR region have been done on the basis of radiance data analysis at various real temperature values;
- phase transition rate constants have been determined for "liquid to metastable γ -phase" and for "γ to stable α–phase" transitions.

Optical constants ε_λ, K_λ and κ_λ as well as the phase transition rate constants (liquid to γ-phase and γ to α phase) obtained in the experiment are recommended for advanced computations of spectrometric characteristics of multiphase high-temperature jets with taking into account the alumina particle phase transitions.

Basing on the experimental data the values of optical constants of γ -Al_2O_3 metastable phase and phase transition rate constants have been evaluated and firstly reported.

The following future work is recommended to improve the phenomena understanding:

1. To widen the wavelength range into the region of fundamental absorption $\lambda<0.28$ μm and 1.7 μm$<\lambda<$10 μm region where free-free transitions in the conductivity band and lattice absorption prevail over other absorption mechanisms.

2. To investigate impact of various atmospheres (CO_2, H_2O, N_2, O_2, Ar) and carbon vapours surface condensation onto the alumina optical characteristics B_λ , ε_λ, κ_λ and "liquid to γ"/ "γ to α"-phase transition rate constants.
3. To determine activation energy in the process γ-phase to α-phase decay (phase 4, Fig.32).

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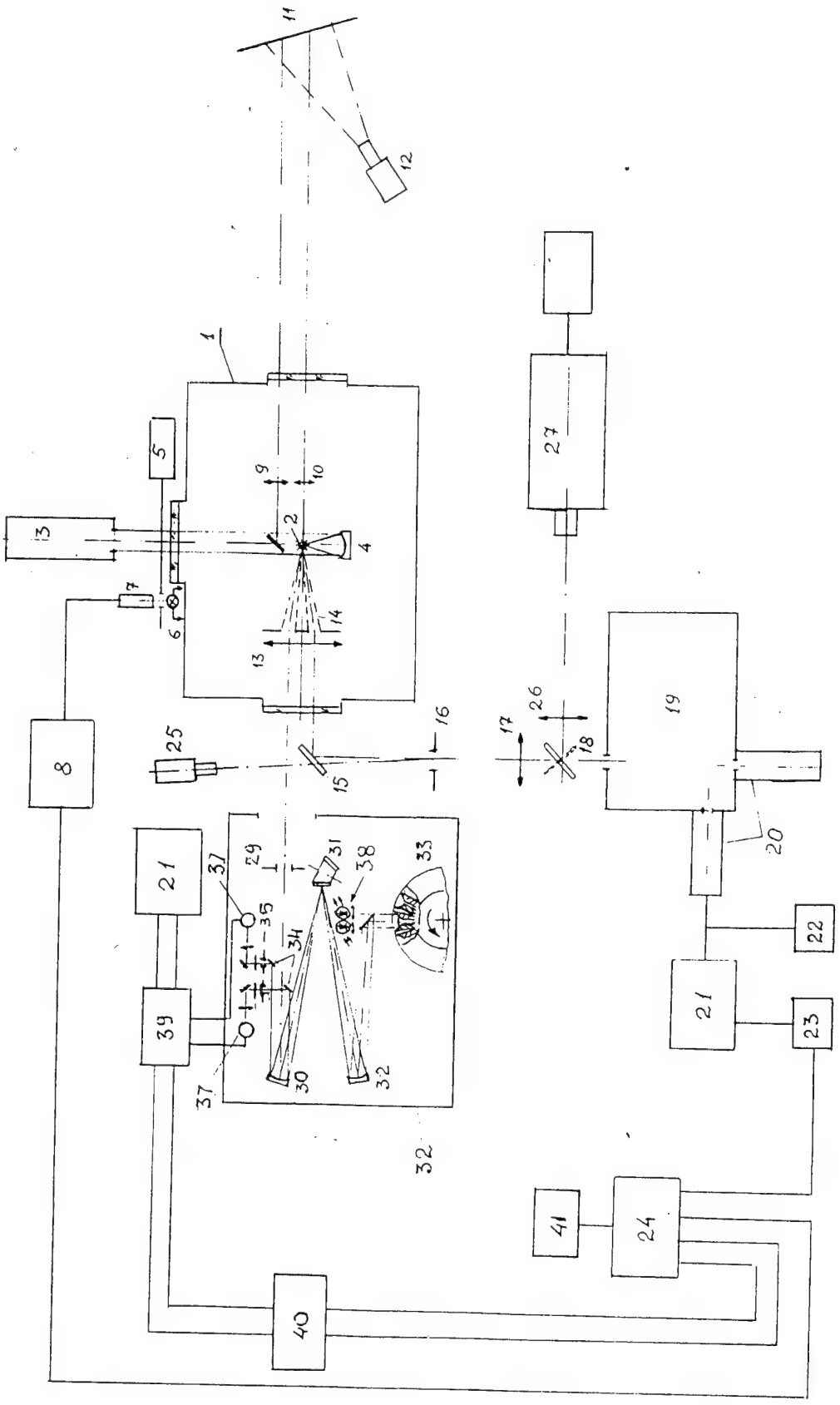
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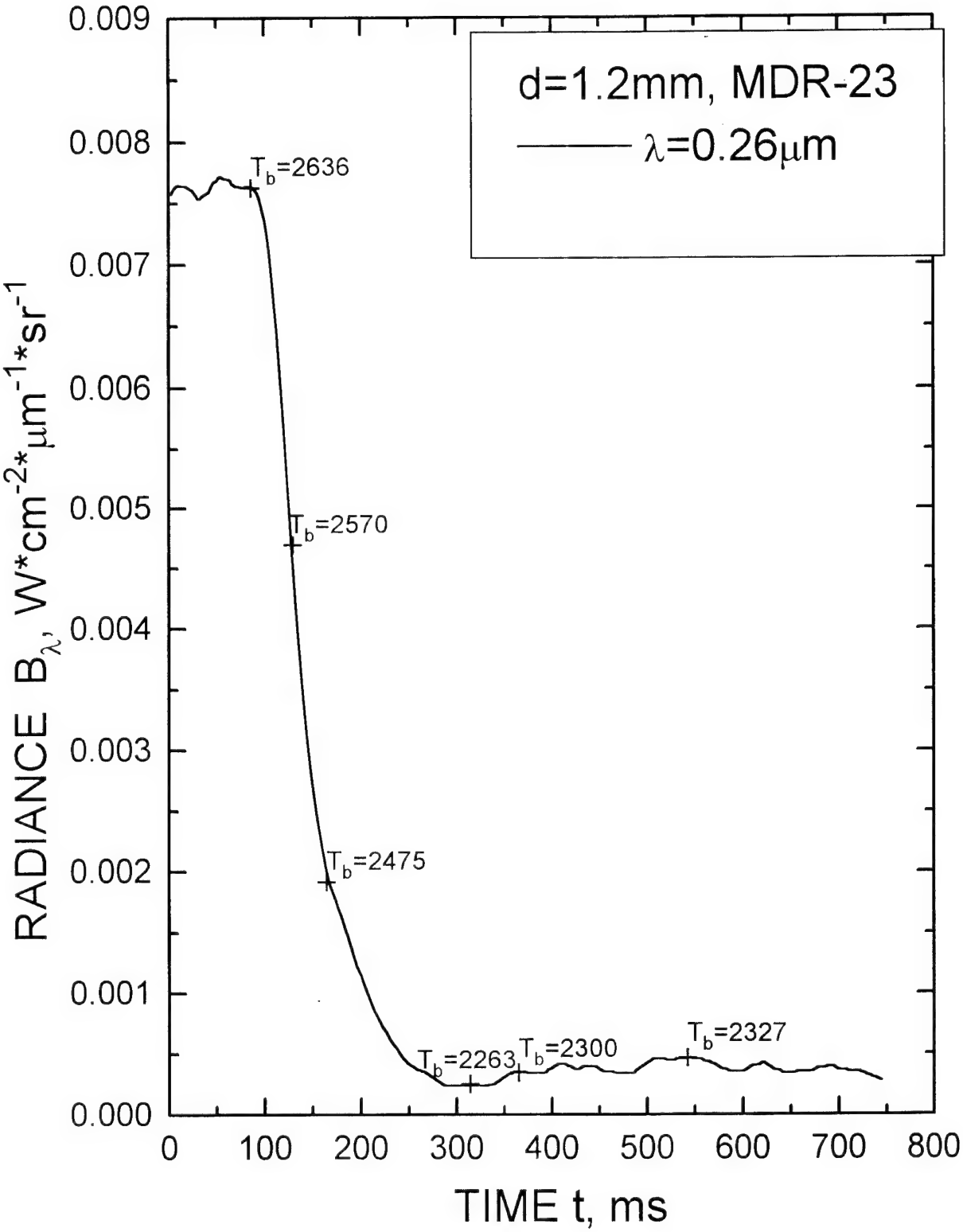
Fig.1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λ=0.26μm
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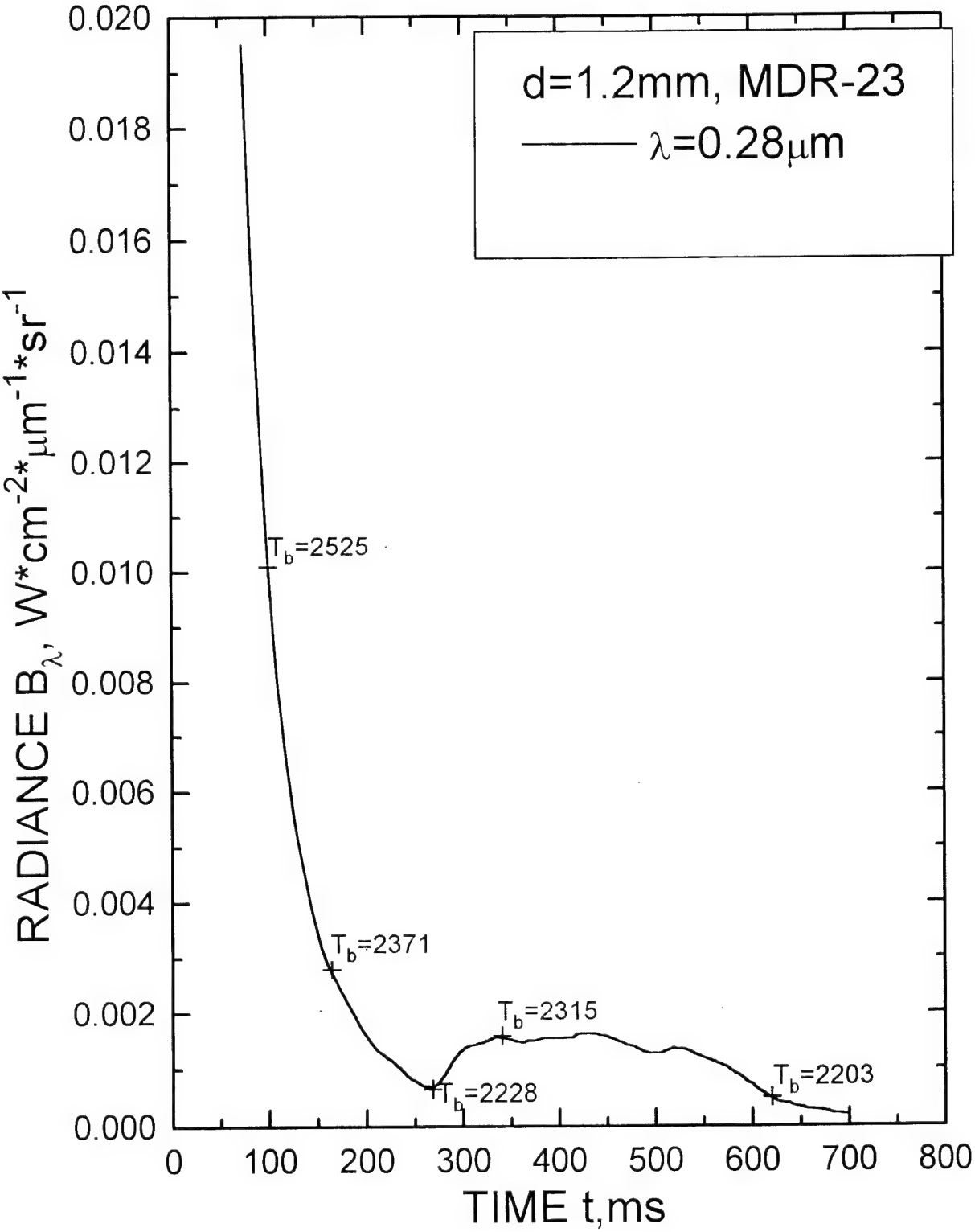
T_b=2570
T_b=2475
T_b=2263
T_b=2300
T_b=2327
RADIANCE B_λ, $W*cm^{-2}*\mu m^{-1}*sr^{-1}$
TIME t, ms
0.000
0.001
0.002
0.003
0.004
0.005
0.006
0.007
0.008
0.009
0
100
200
300
400
500
600
700
800

Fig.2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λ=0.28μm
RADIANCE B_λ, $W*cm^{-2}*\mu m^{-1}*sr^{-1}$
TIME t,ms
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0.018
0.016
0.014
0.012
0.010
0.008
0.006
0.004
0.002
0.000
0
100
200
300
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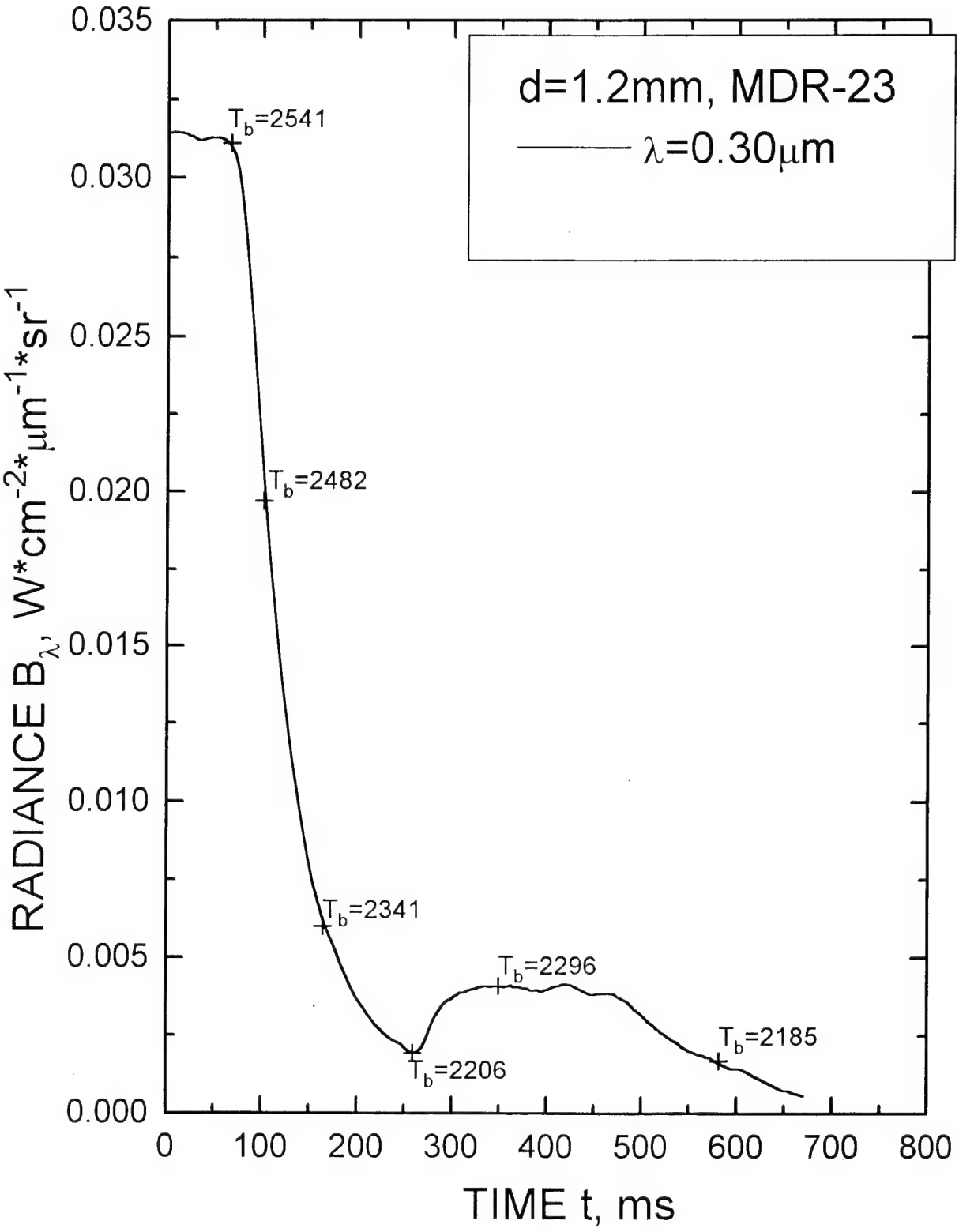
Fig.3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λ=0.30μm
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T_b=2341
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T_b=2185
RADIANCE B_λ, $W*cm^{-2}*\mu m^{-1}*sr^{-1}$
TIME t, ms
0.035
0.030
0.025
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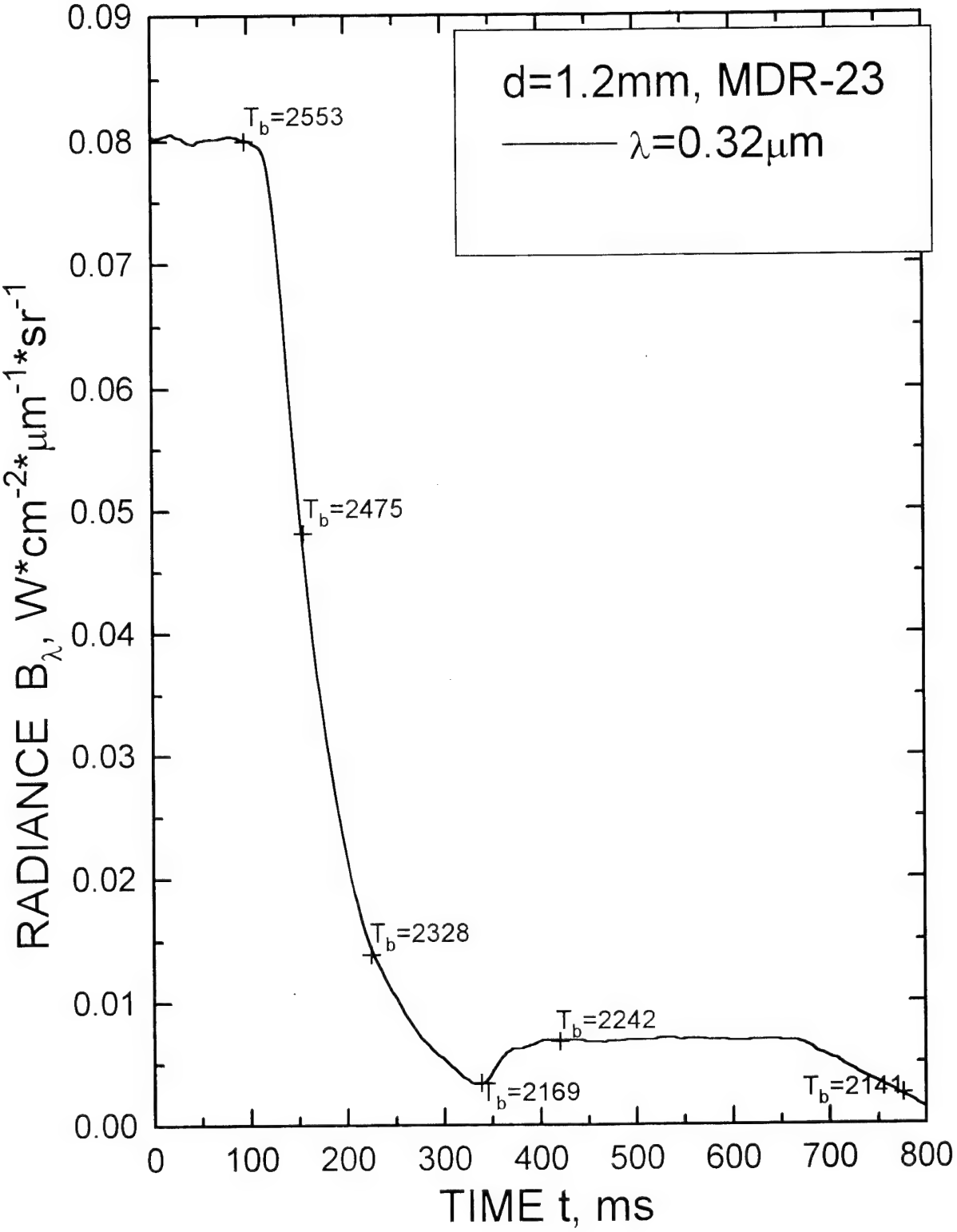
0.000
0
100
200
300
400
500
600
700
800

Fig.4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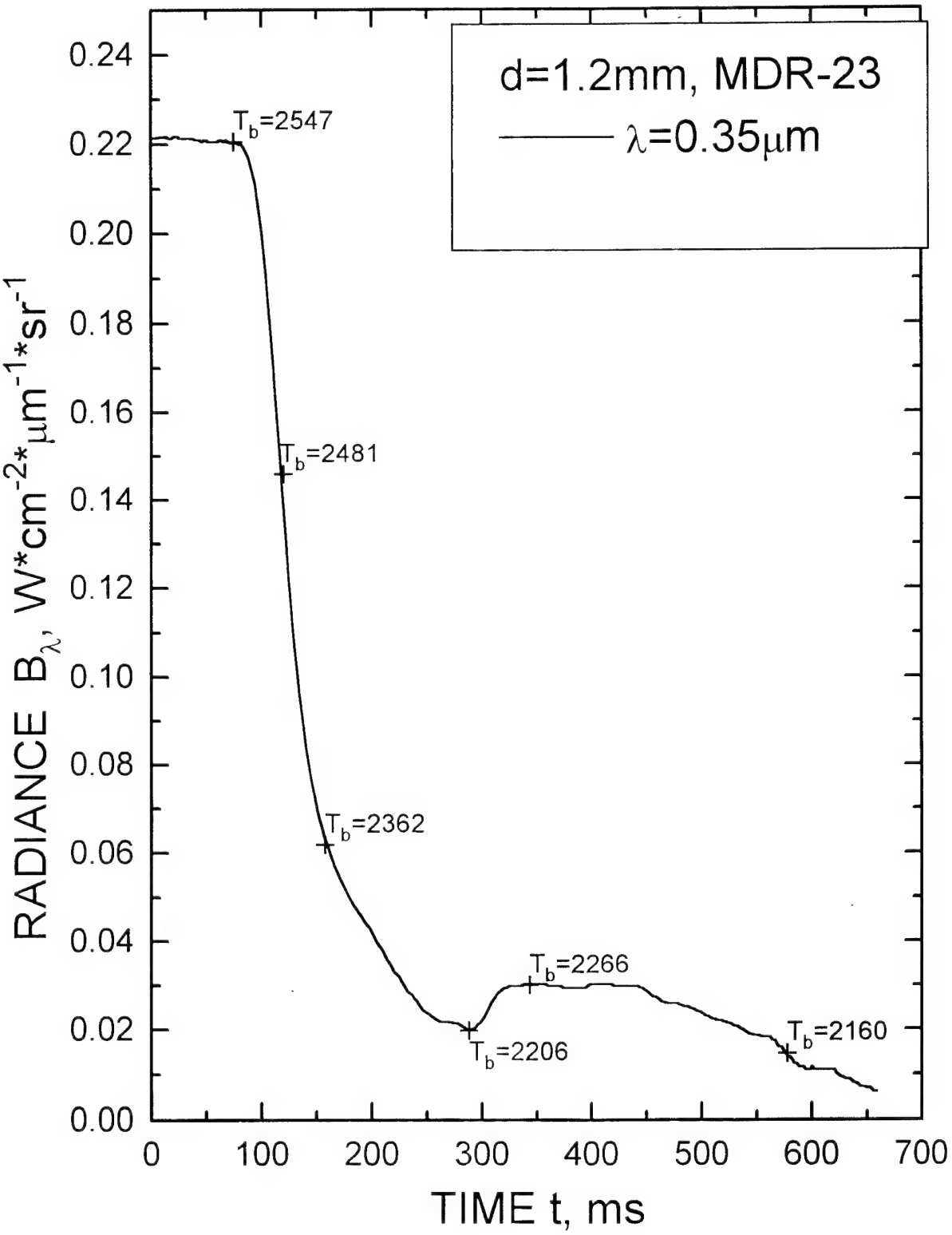
T_b=2141
RADIANCE B_λ, $W*cm^{-2}*\mu m^{-1}*sr^{-1}$
TIME t, ms
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0
100
200
300
400
500
600
700
800

Fig.5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T_b=2160
RADIANCE B_λ, W*cm^{-2}*μm^{-1}*sr^{-1}
TIME t, ms
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
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Fig. 6

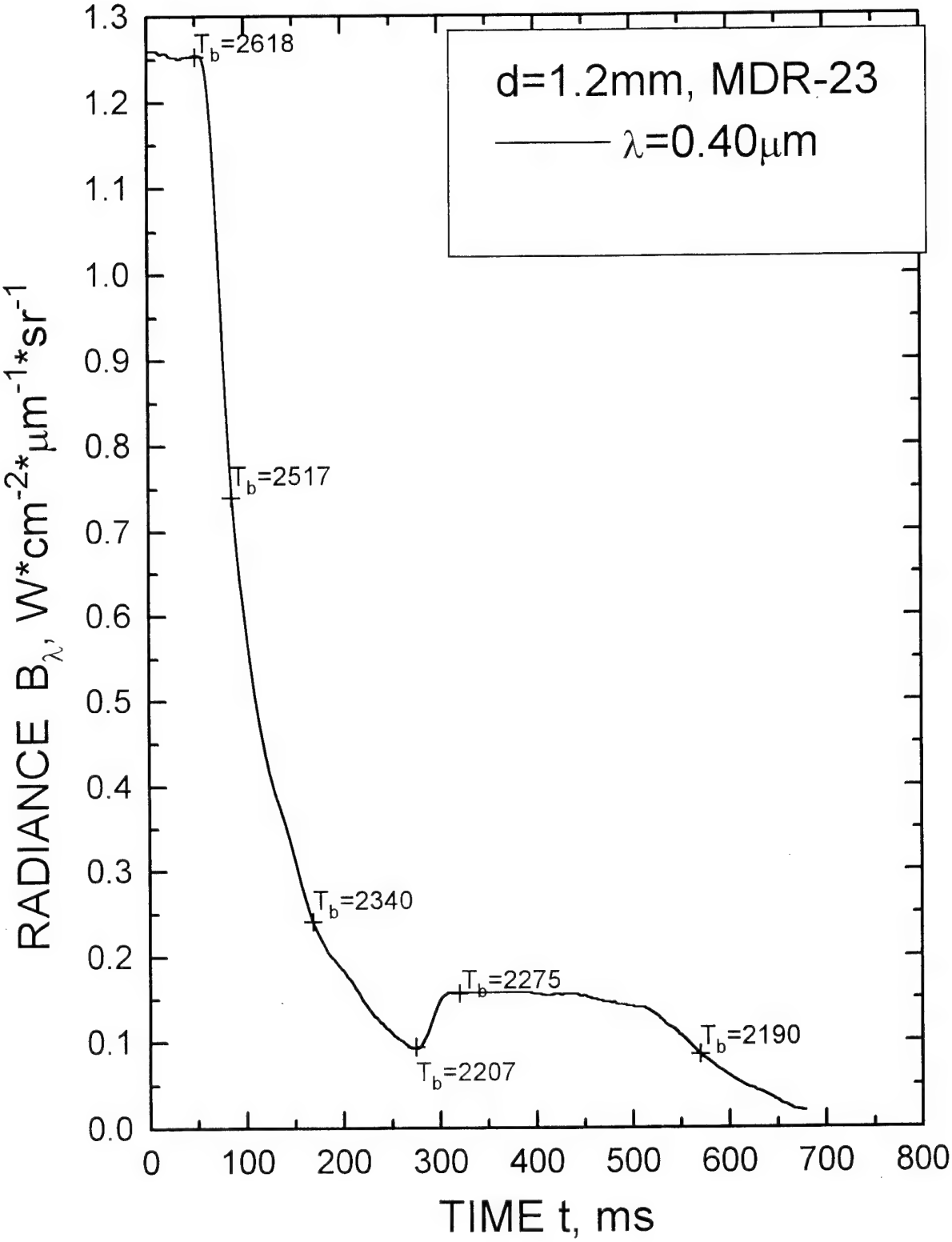

d=1.2mm, MDR-23
λ=0.40μm
T_b=2618
T_b=2517
T_b=2340
T_b=2207
T_b=2275
T_b=2190
RADIANCE B_λ, $W*cm^{-2}*\mu m^{-1}*sr^{-1}$
TIME t, ms
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
0
100
200
300
400
500
600
700
800

Fig. 7

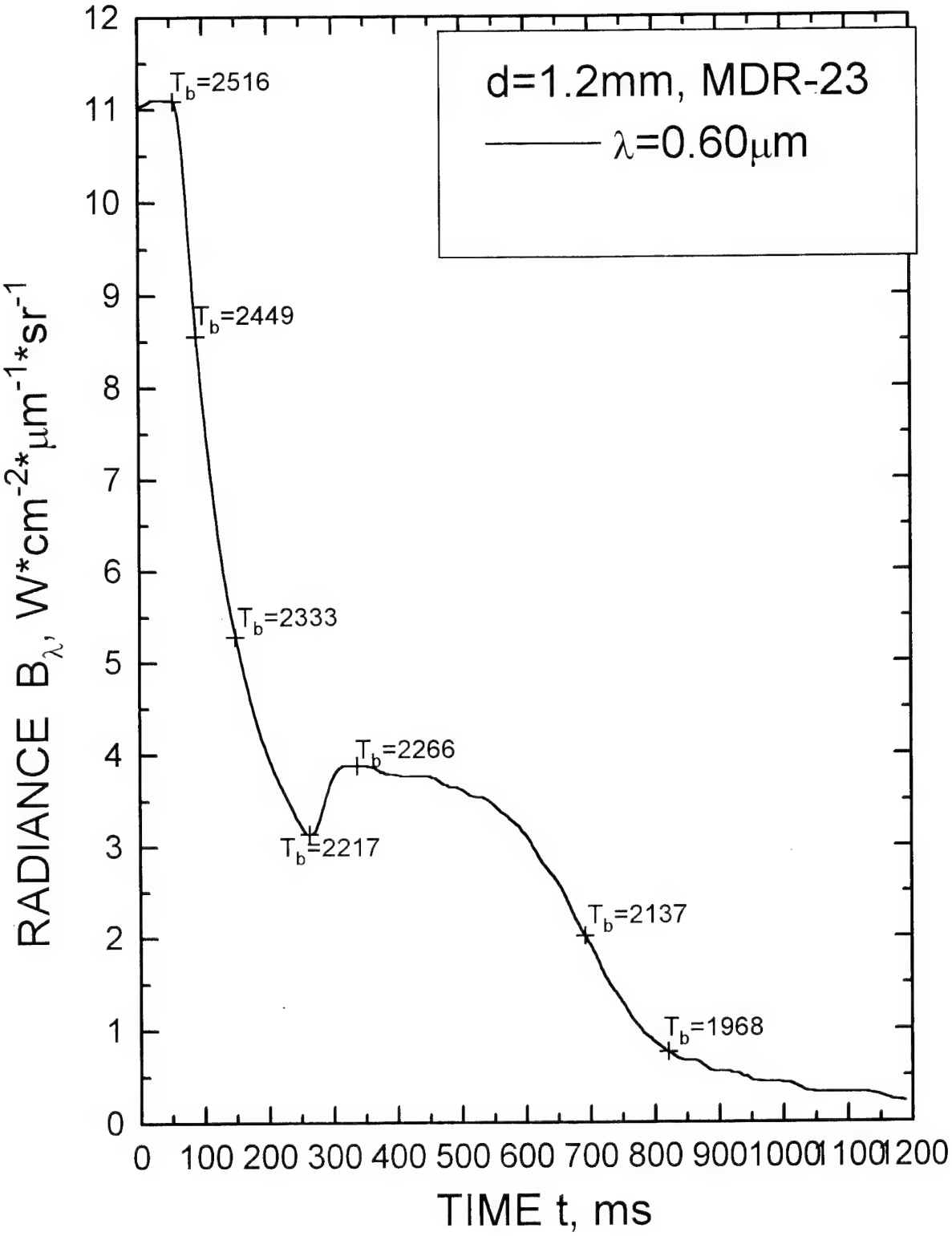

d=1.2mm, MDR-23
λ=0.60μm
T_b=2516
T_b=2449
T_b=2333
T_b=2266
T_b=2217
T_b=2137
T_b=1968
RADIANCE B_λ, $W*cm^{-2}*\mu m^{-1}*sr^{-1}$
TIME t, ms
0 1 2 3 4 5 6 7 8 9 10 11 12
0 100 200 300 400 500 600 700 800 900 1000 1100 1200

Fig. 8

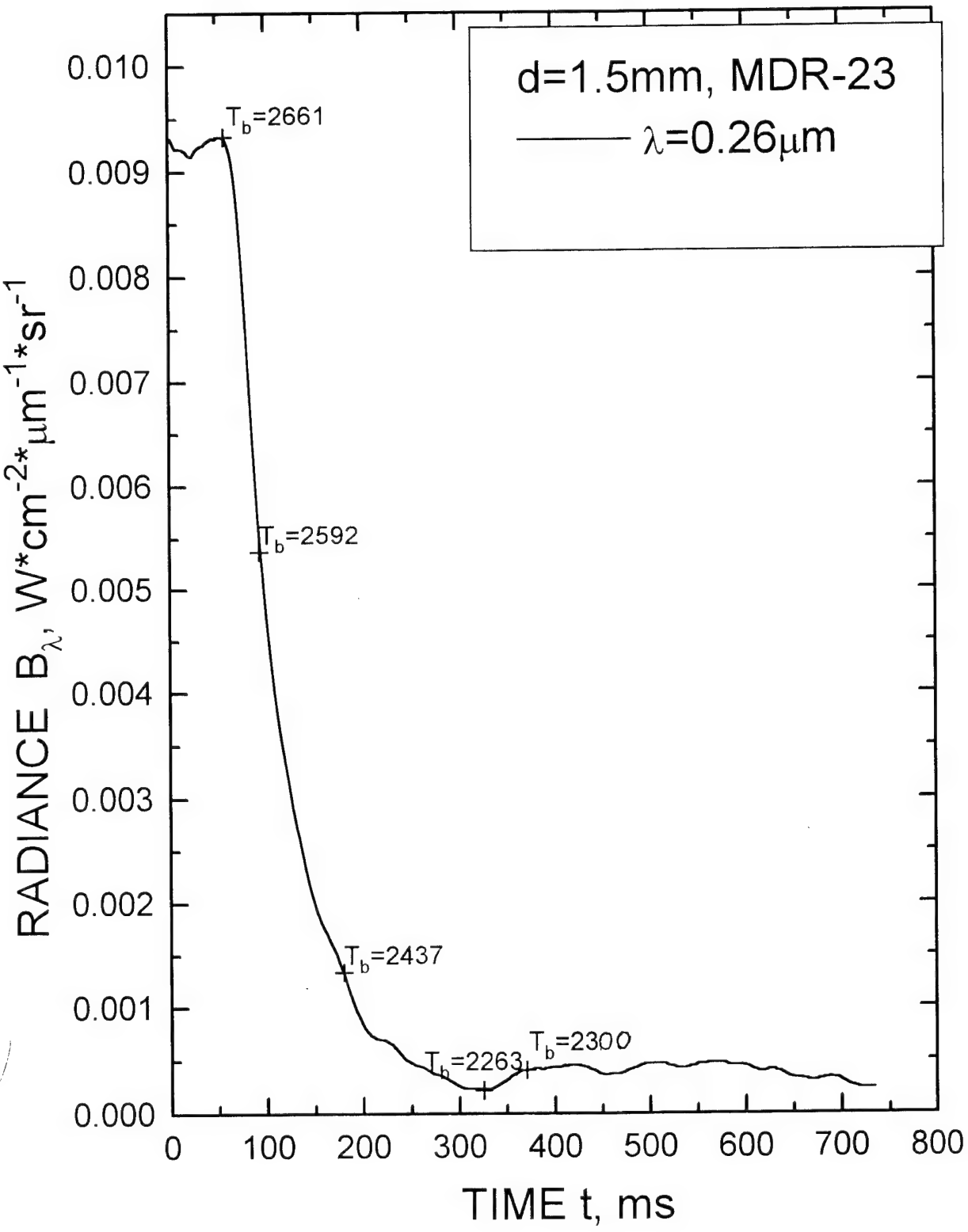

d=1.5mm, MDR-23
λ=0.26μm
T_b=2661
T_b=2592
T_b=2437
T_b=2263
T_b=2300
RADIANCE B_λ, W*cm^{-2}*μm^{-1}*sr^{-1}
TIME t, ms
0.000
0.001
0.002
0.003
0.004
0.005
0.006
0.007
0.008
0.009
0.010
0
100
200
300
400
500
600
700
800

Fig. 9

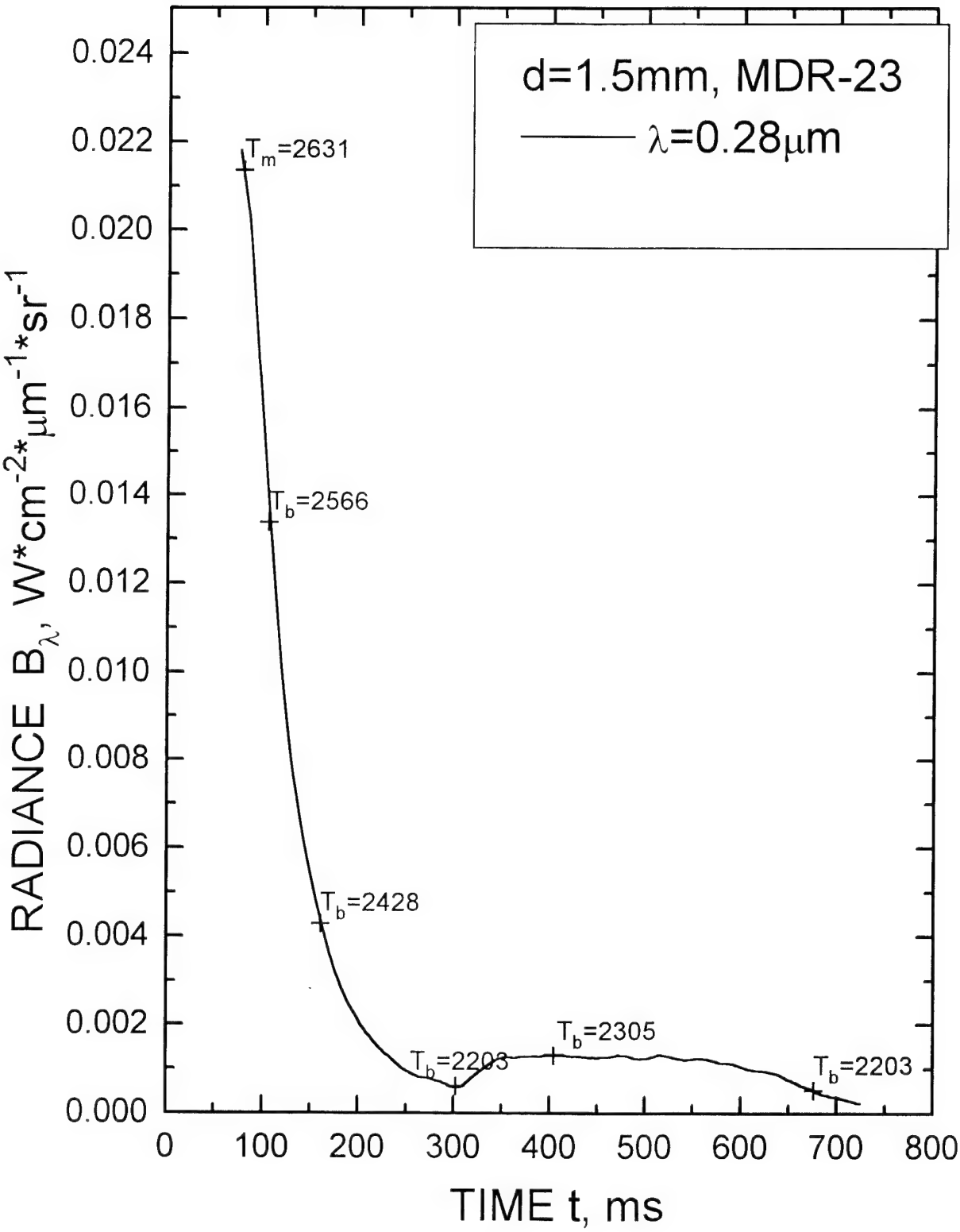

d=1.5mm, MDR-23
λ=0.28μm
T_m=2631
T_b=2566
T_b=2428
T_b=2203
T_b=2305
T_b=2203
RADIANCE B_λ, $W*cm^{-2}*\mu m^{-1}*sr^{-1}$
TIME t, ms
0.000
0.002
0.004
0.006
0.008
0.010
0.012
0.014
0.016
0.018
0.020
0.022
0.024
0
100
200
300
400
500
600
700
800

Fig. 10

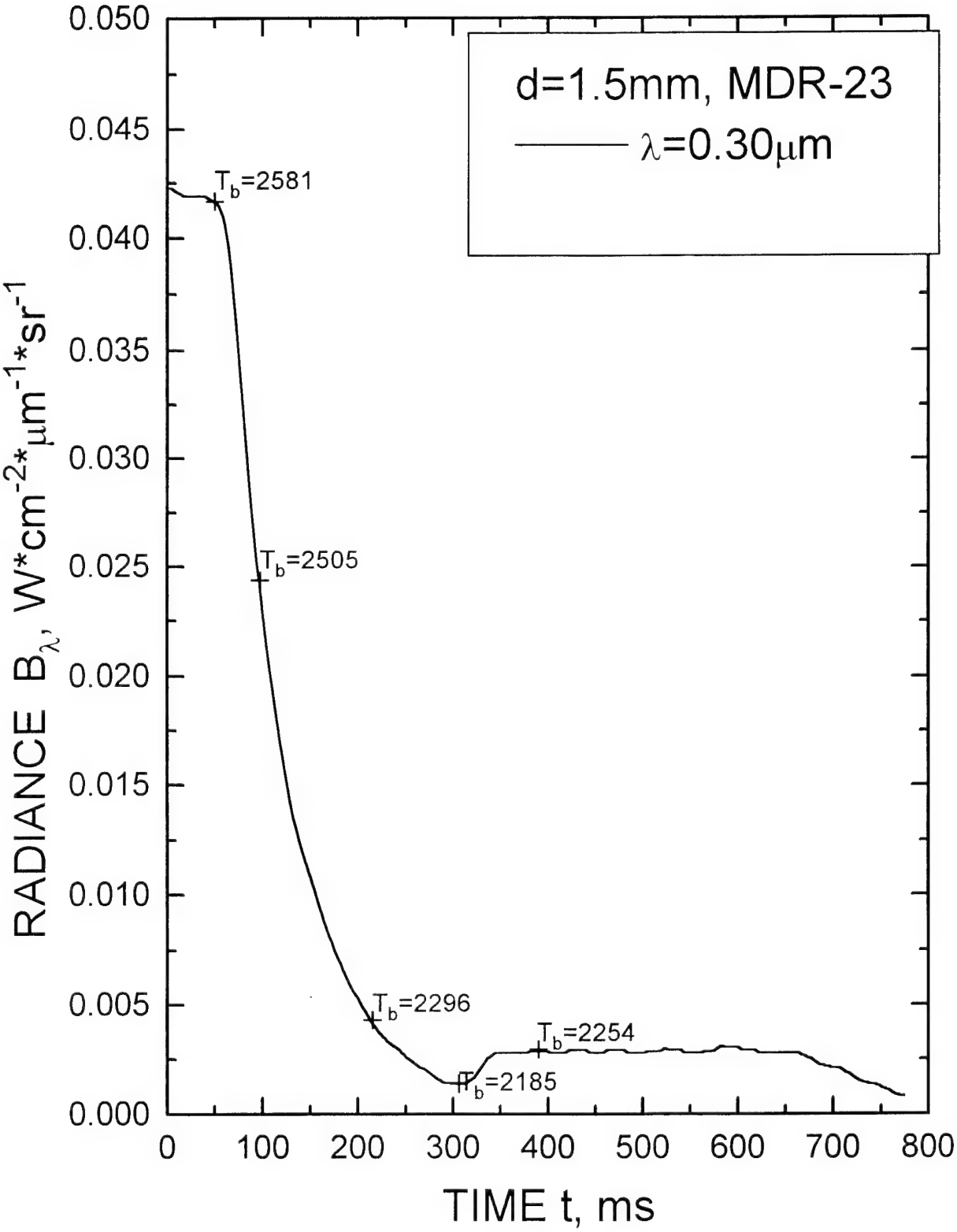

d=1.5mm, MDR-23
λ=0.30μm
T_b=2581
T_b=2505
T_b=2296
T_b=2254
T_b=2185
RADIANCE B_λ, $W*cm^{-2}*\mu m^{-1}*sr^{-1}$
TIME t, ms
0.050
0.045
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
0
100
200
300
400
500
600
700
800

Fig. 11

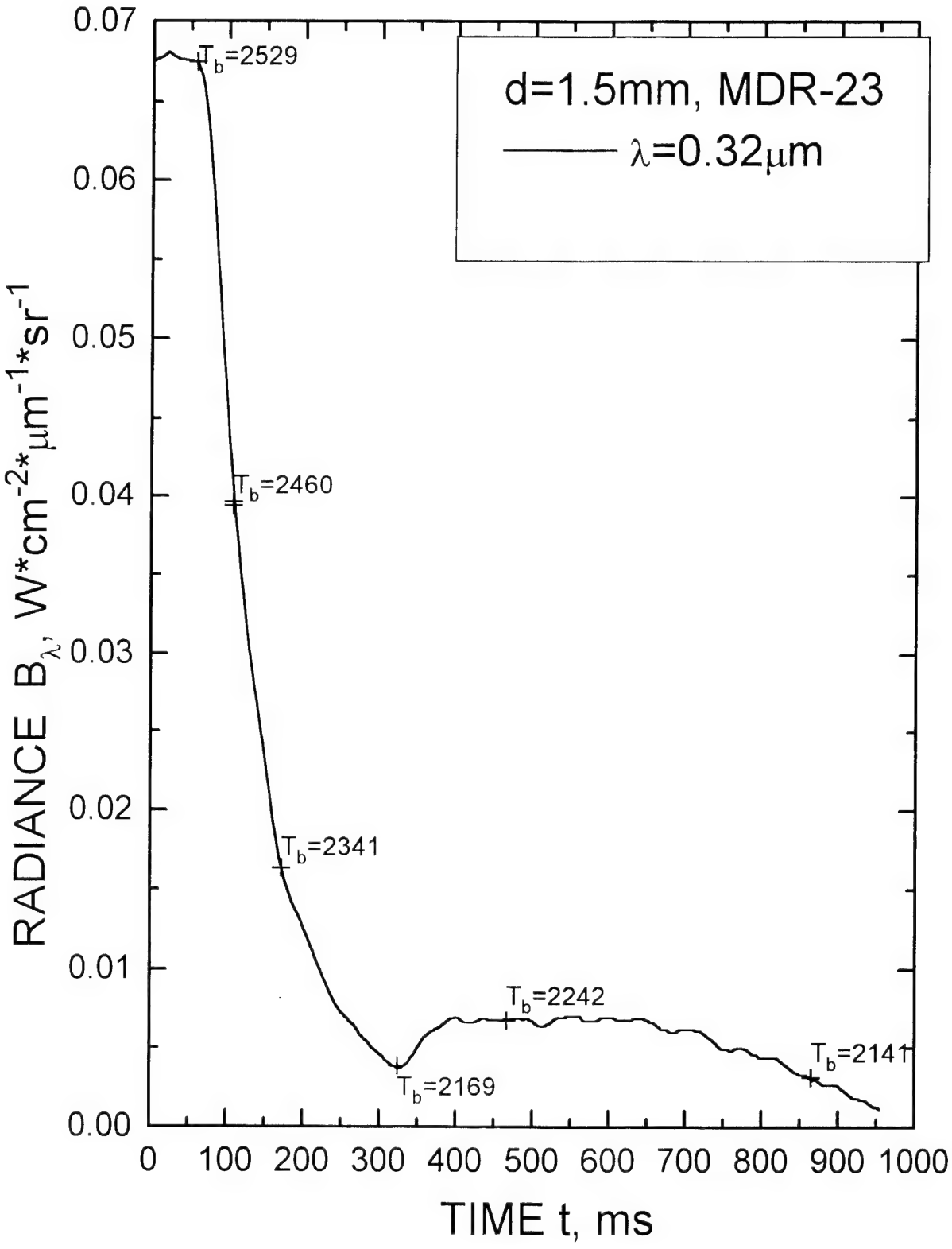

d=1.5mm, MDR-23
λ=0.32μm
T_b=2529
T_b=2460
T_b=2341
T_b=2169
T_b=2242
T_b=2141
RADIANCE B_λ, W*cm^{-2}*μm^{-1}*sr^{-1}
TIME t, ms
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0
100
200
300
400
500
600
700
800
900
1000

Fig.12

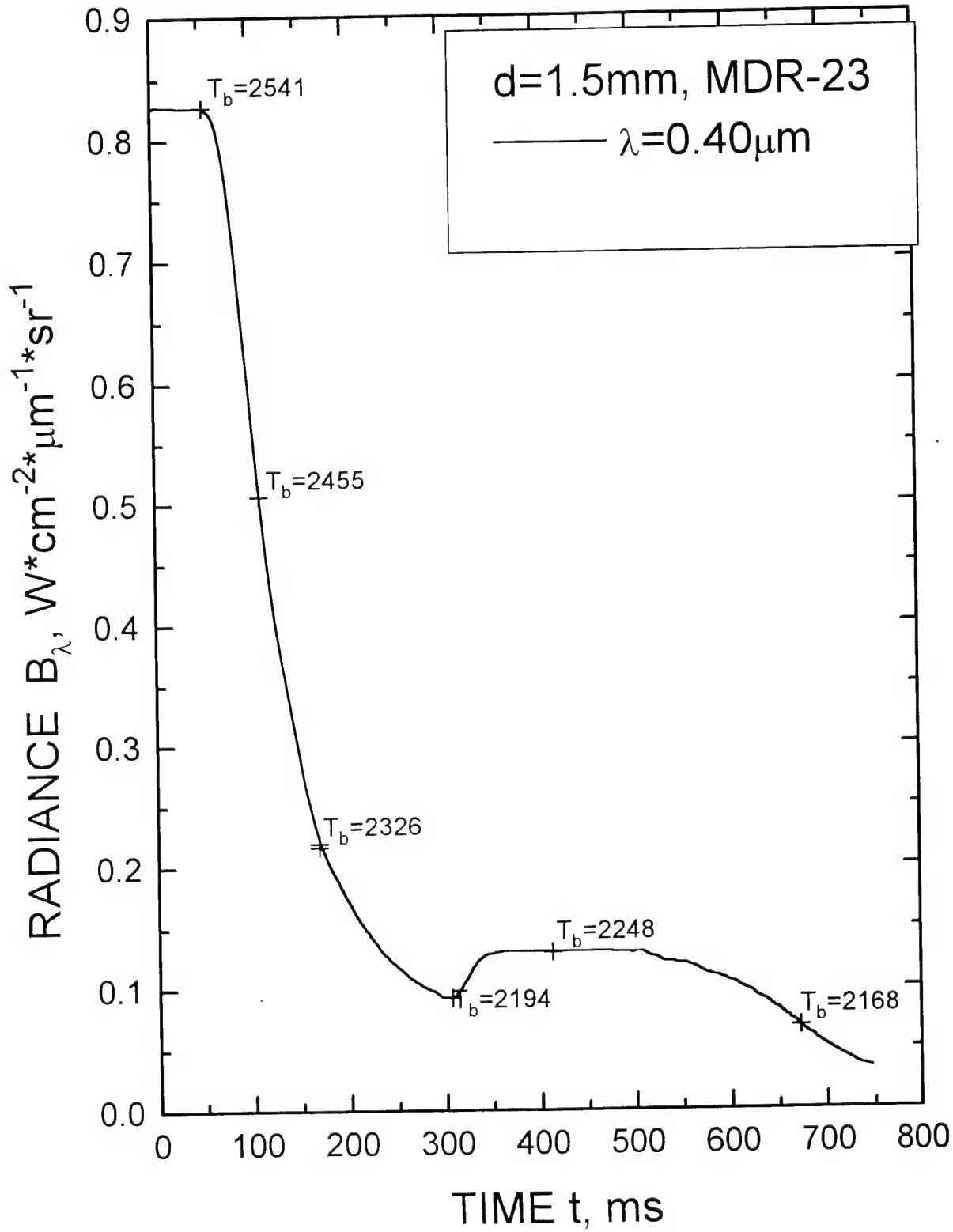

d=1.5mm, MDR-23
λ=0.40μm
T_b=2541
T_b=2455
T_b=2326
T_b=2194
T_b=2248
T_b=2168
RADIANCE B_λ, $W*cm^{-2}*\mu m^{-1}*sr^{-1}$
TIME t, ms
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
0
100
200
300
400
500
600
700
800

Fig. 13

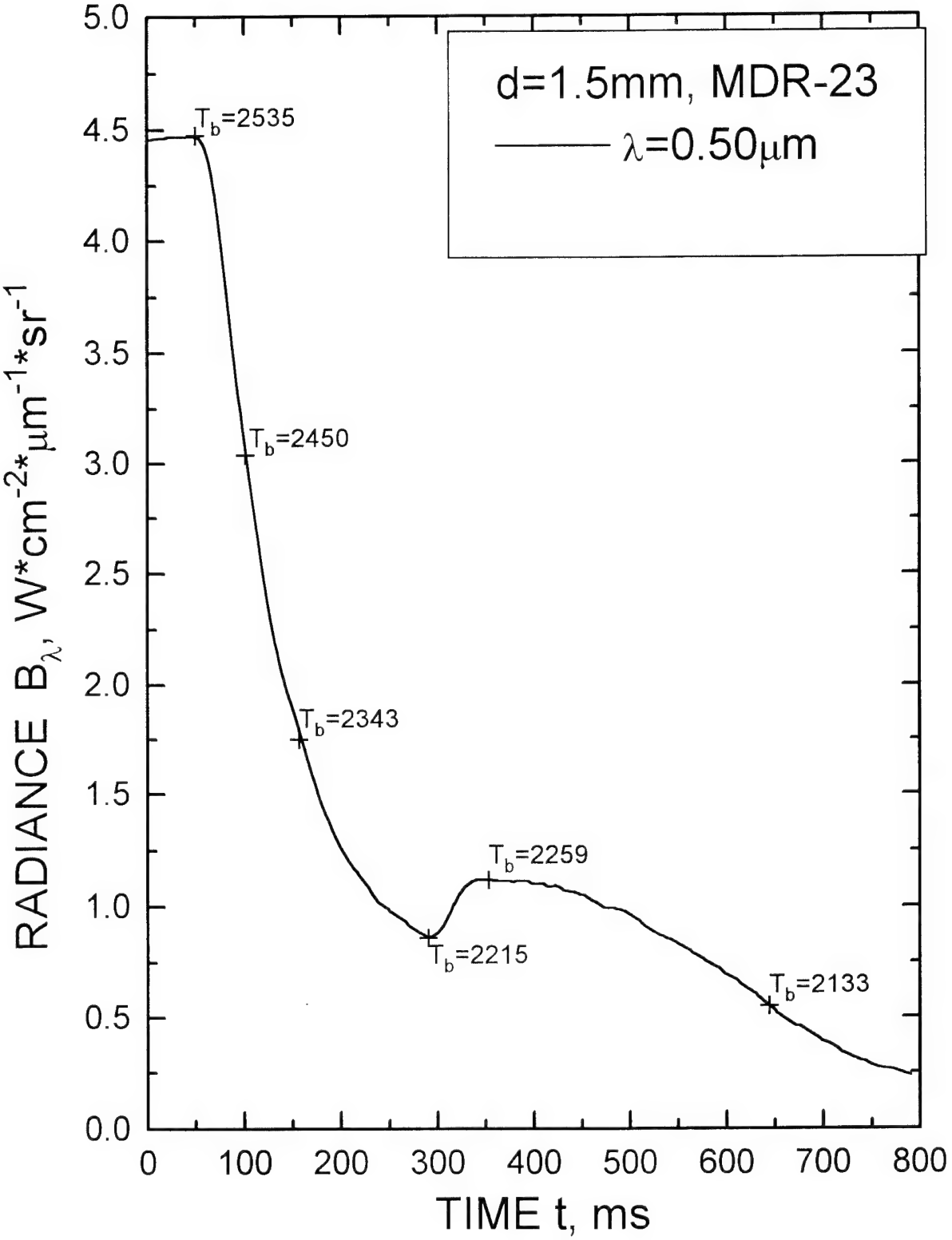

d=1.5mm, MDR-23
λ=0.50μm
T_b=2535
T_b=2450
T_b=2343
T_b=2259
T_b=2215
T_b=2133
RADIANCE B_λ, $W*cm^{-2}*\mu m^{-1}*sr^{-1}$
TIME t, ms
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
0
100
200
300
400
500
600
700
800

Fig.14

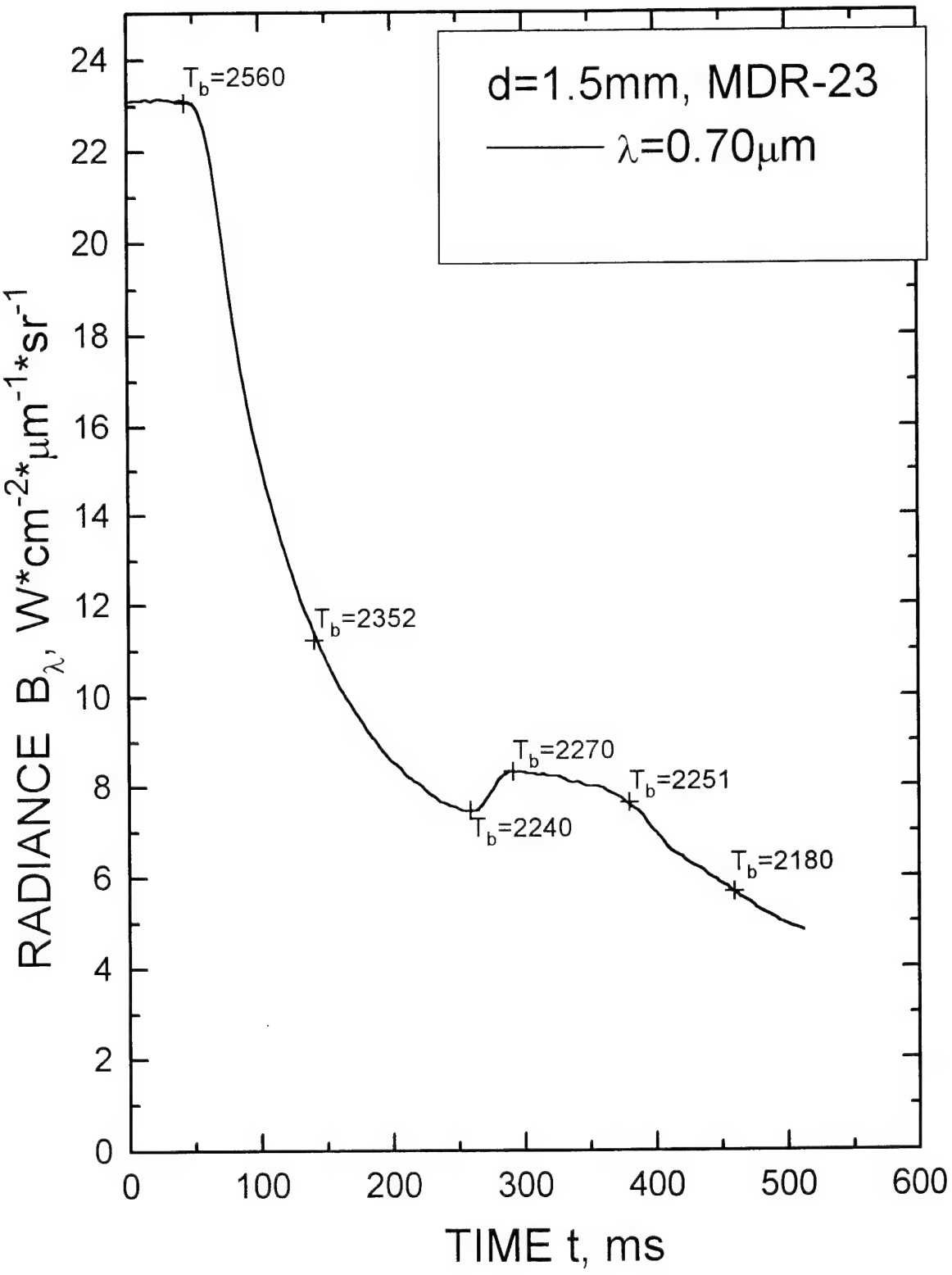

d=1.5mm, MDR-23
λ=0.70μm
T_b=2560
T_b=2352
T_b=2270
T_b=2251
T_b=2240
T_b=2180
RADIANCE B_λ, $W*cm^{-2}*\mu m^{-1}*sr^{-1}$
TIME t, ms
0
2
4
6
8
10
12
14
16
18
20
22
24
0
100
200
300
400
500
600

Fig.15

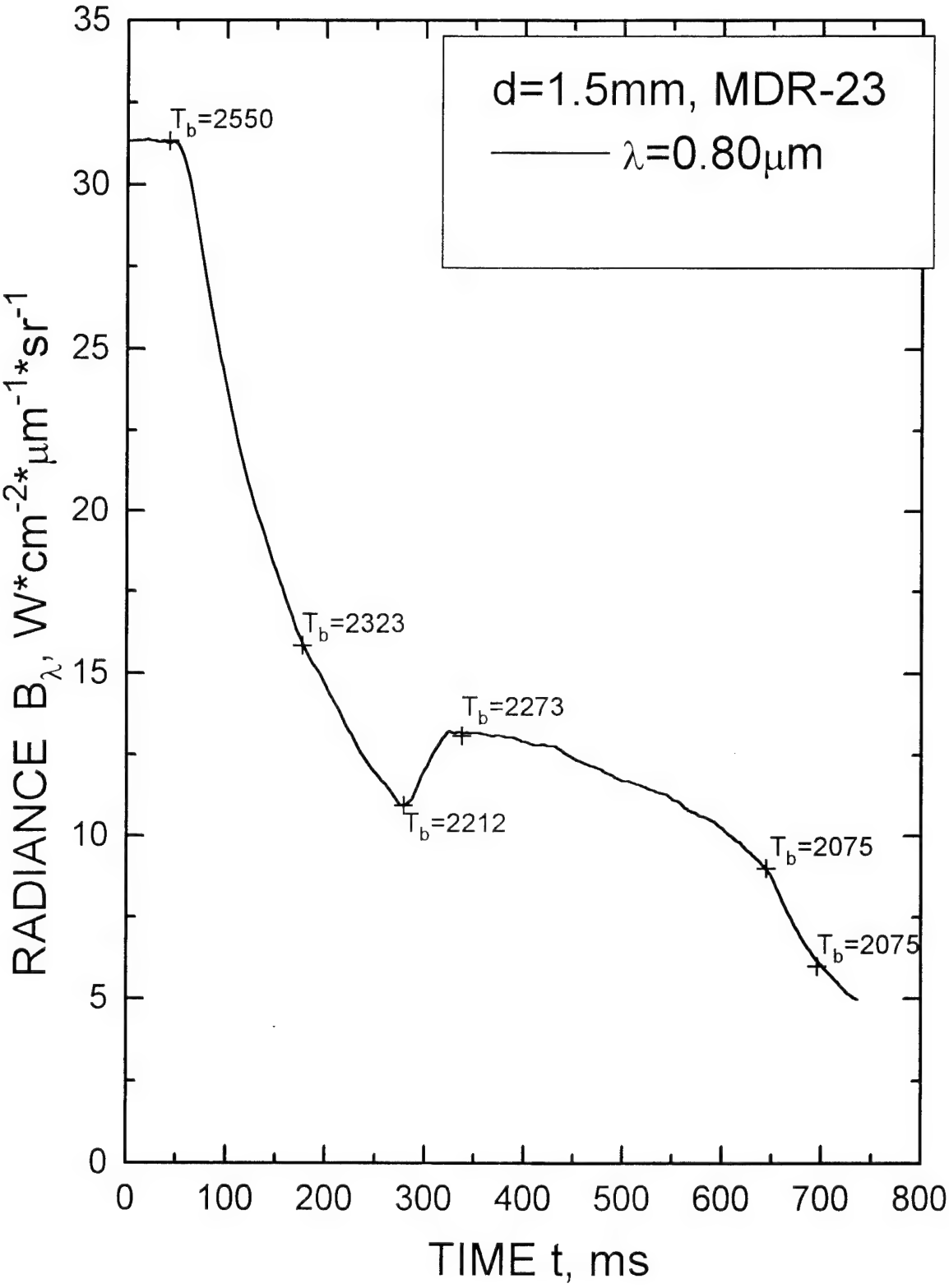

d=1.5mm, MDR-23
λ=0.80μm
T_b=2550
T_b=2323
T_b=2273
T_b=2212
T_b=2075
T_b=2075
RADIANCE B_λ, $W*cm^{-2}*\mu m^{-1}*sr^{-1}$
TIME t, ms
0
5
10
15
20
25
30
35
0
100
200
300
400
500
600
700
800

Fig.16

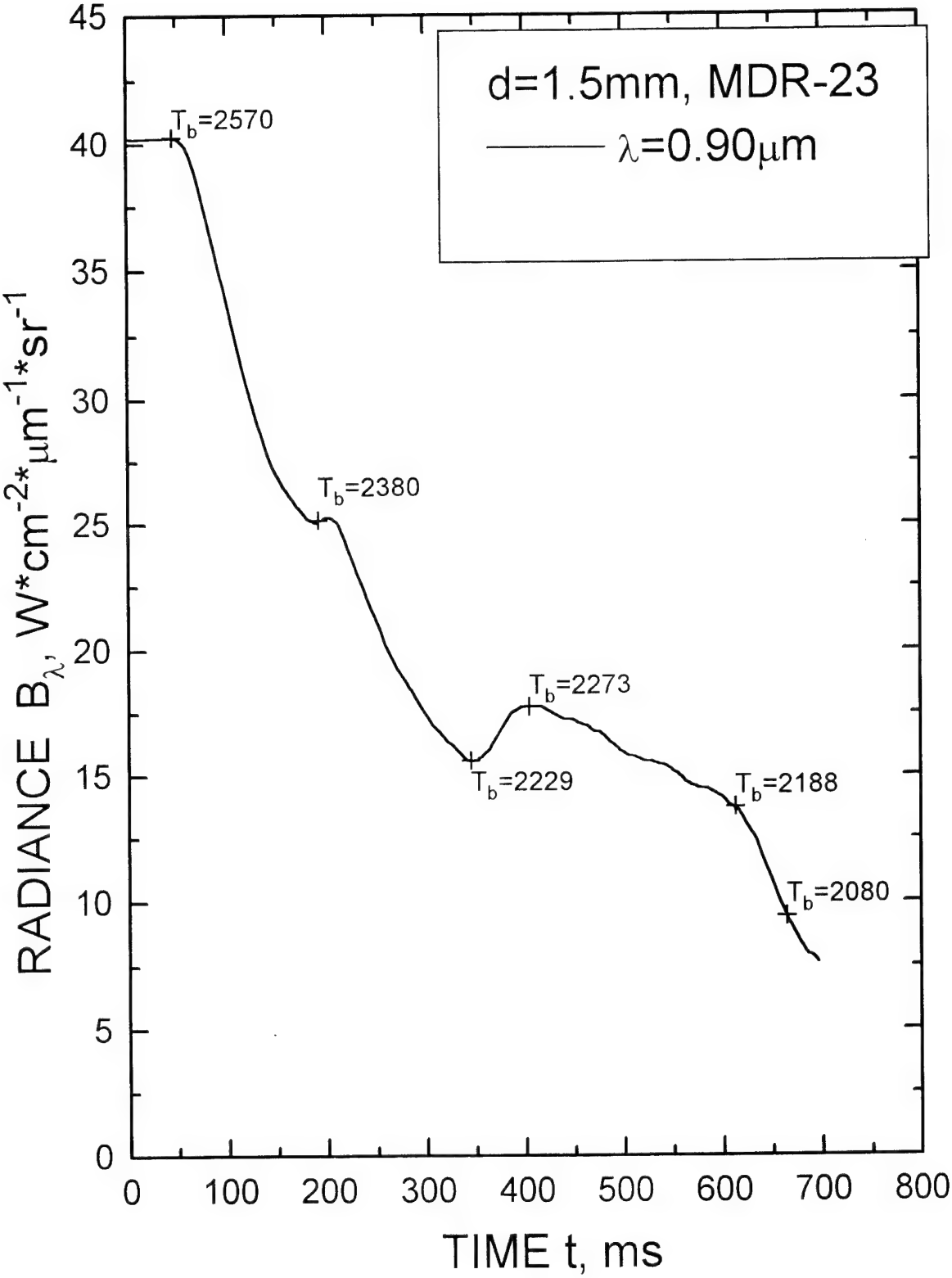

d=1.5mm, MDR-23
λ=0.90μm
T_b=2570
T_b=2380
T_b=2273
T_b=2229
T_b=2188
T_b=2080
RADIANCE $B_{\lambda'}$ W*cm^{-2}*μm^{-1}*sr^{-1}
TIME t, ms
0
5
10
15
20
25
30
35
40
45
0
100
200
300
400
500
600
700
800

Fig.17

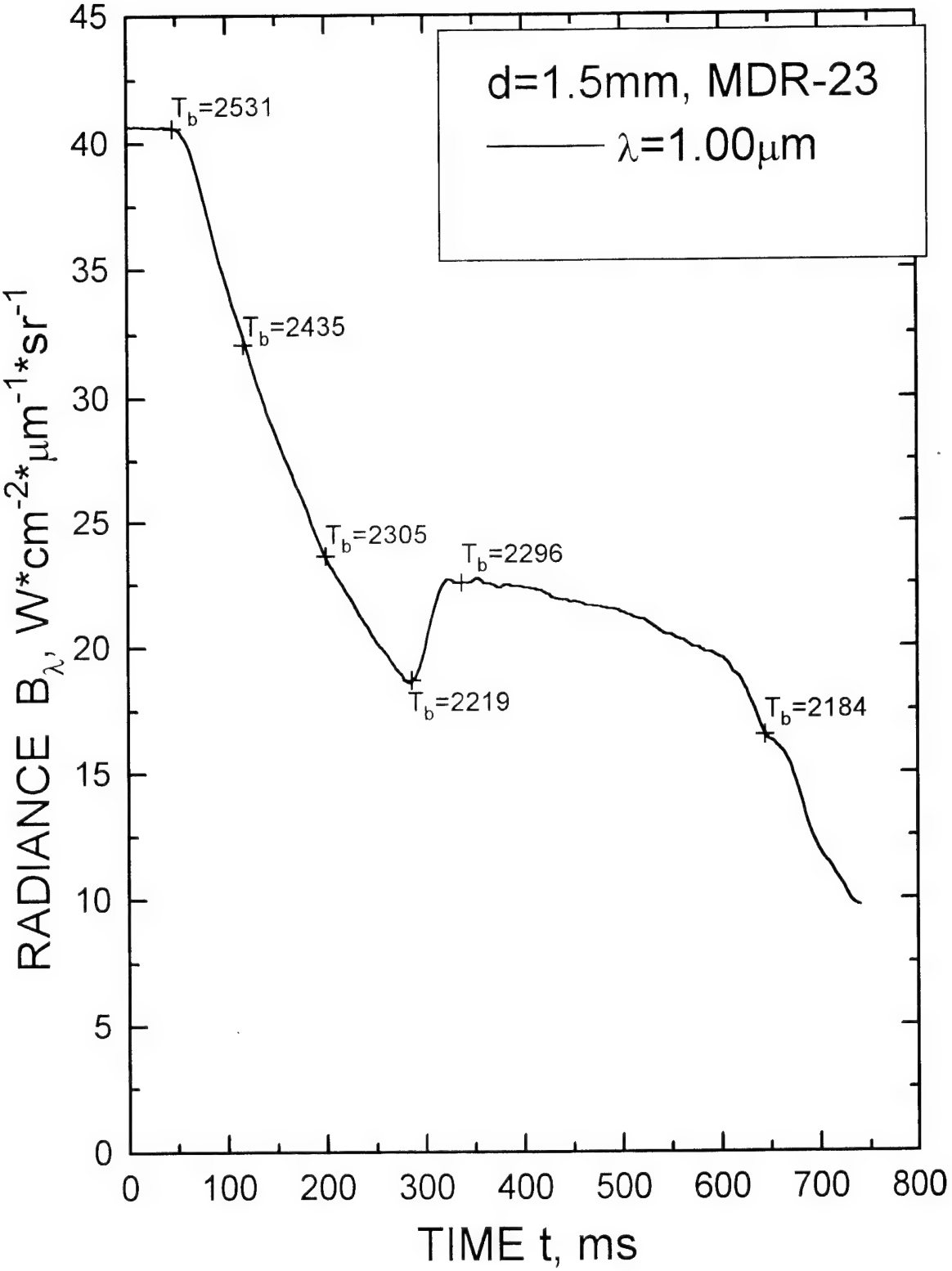

d=1.5mm, MDR-23
λ=1.00μm
T_b=2531
T_b=2435
T_b=2305
T_b=2219
T_b=2296
T_b=2184
RADIANCE $B_{\lambda'}$ W*cm^{-2}*μm^{-1}*sr^{-1}
TIME t, ms
0
5
10
15
20
25
30
35
40
45
0
100
200
300
400
500
600
700
800

Fig.18

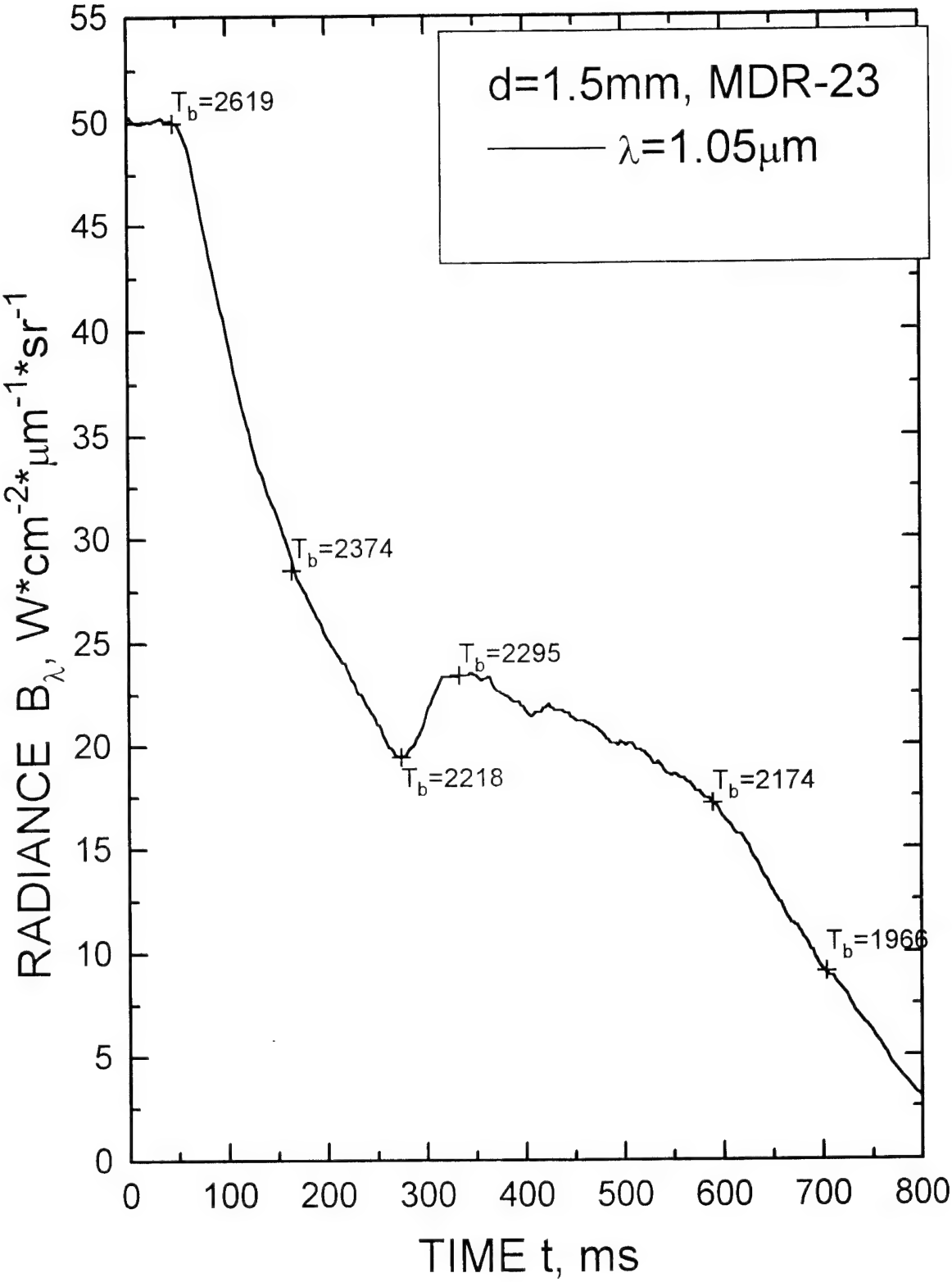

d=1.5mm, MDR-23
λ=1.05μm
T_b=2619
T_b=2374
T_b=2295
T_b=2218
T_b=2174
T_b=1966
RADIANCE B_λ, $W*cm^{-2}*\mu m^{-1}*sr^{-1}$
TIME t, ms
0
5
10
15
20
25
30
35
40
45
50
55
0
100
200
300
400
500
600
700
800

Fig. 19

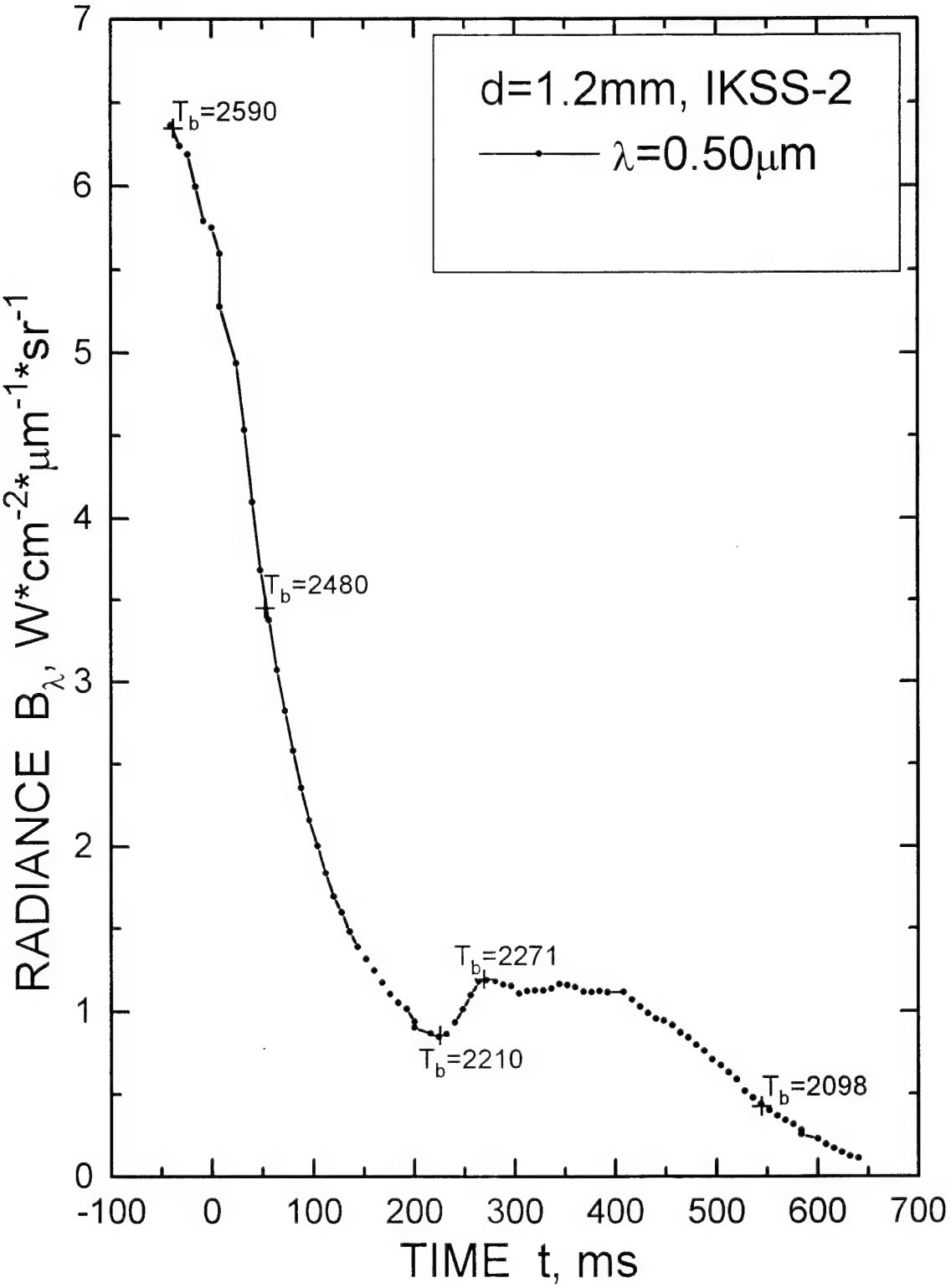

d=1.2mm, IKSS-2
λ=0.50μm
T_b=2590
T_b=2480
T_b=2271
T_b=2210
T_b=2098
RADIANCE B_λ, $W*cm^{-2}*\mu m^{-1}*sr^{-1}$
TIME t, ms
0
1
2
3
4
5
6
7
-100
0
100
200
300
400
500
600
700

Fig. 20

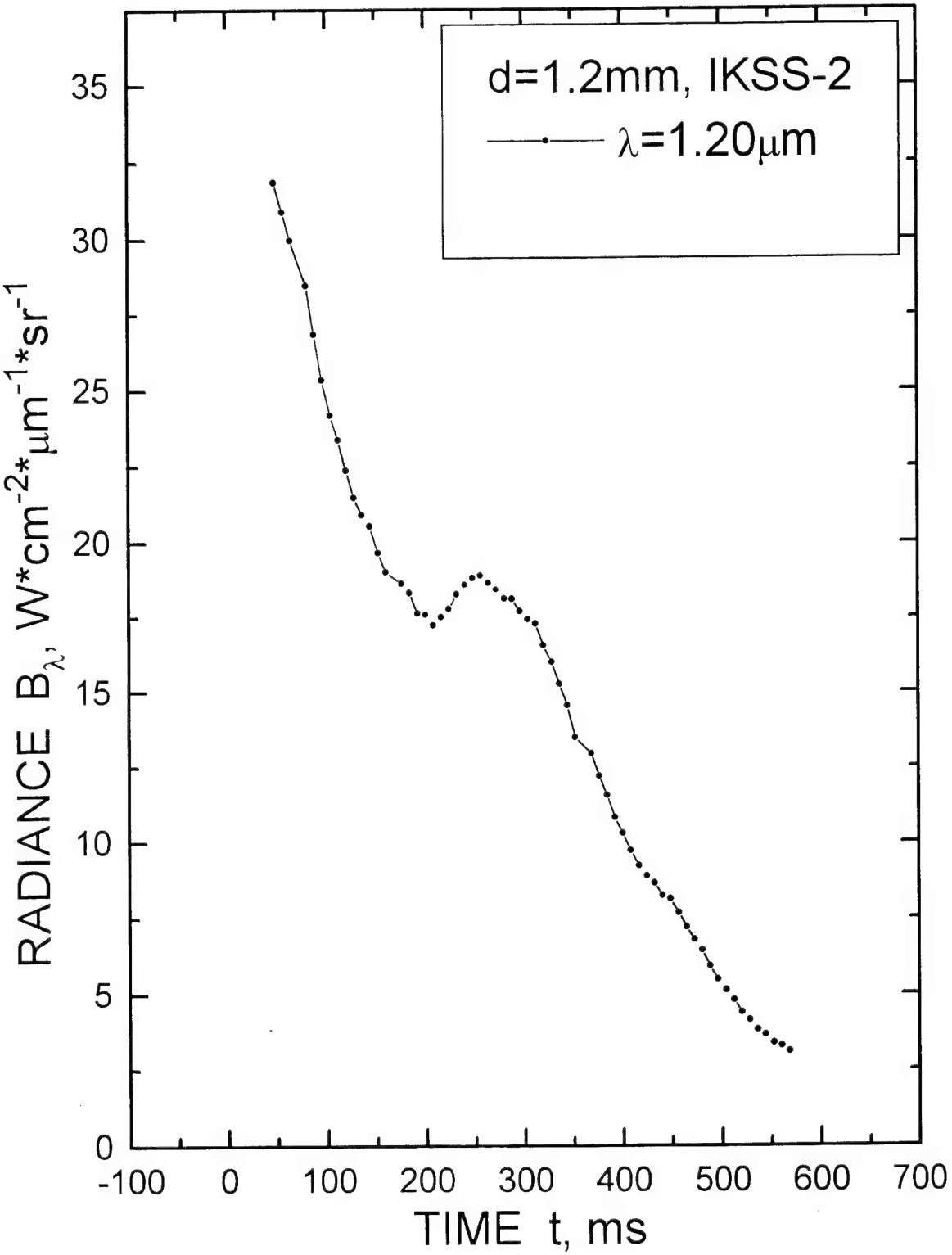

d=1.2mm, IKSS-2
λ=1.20μm
RADIANCE B_λ, $W*cm^{-2}*\mu m^{-1}*sr^{-1}$
TIME t, ms
0
5
10
15
20
25
30
35
-100
0
100
200
300
400
500
600
700

Fig. 21

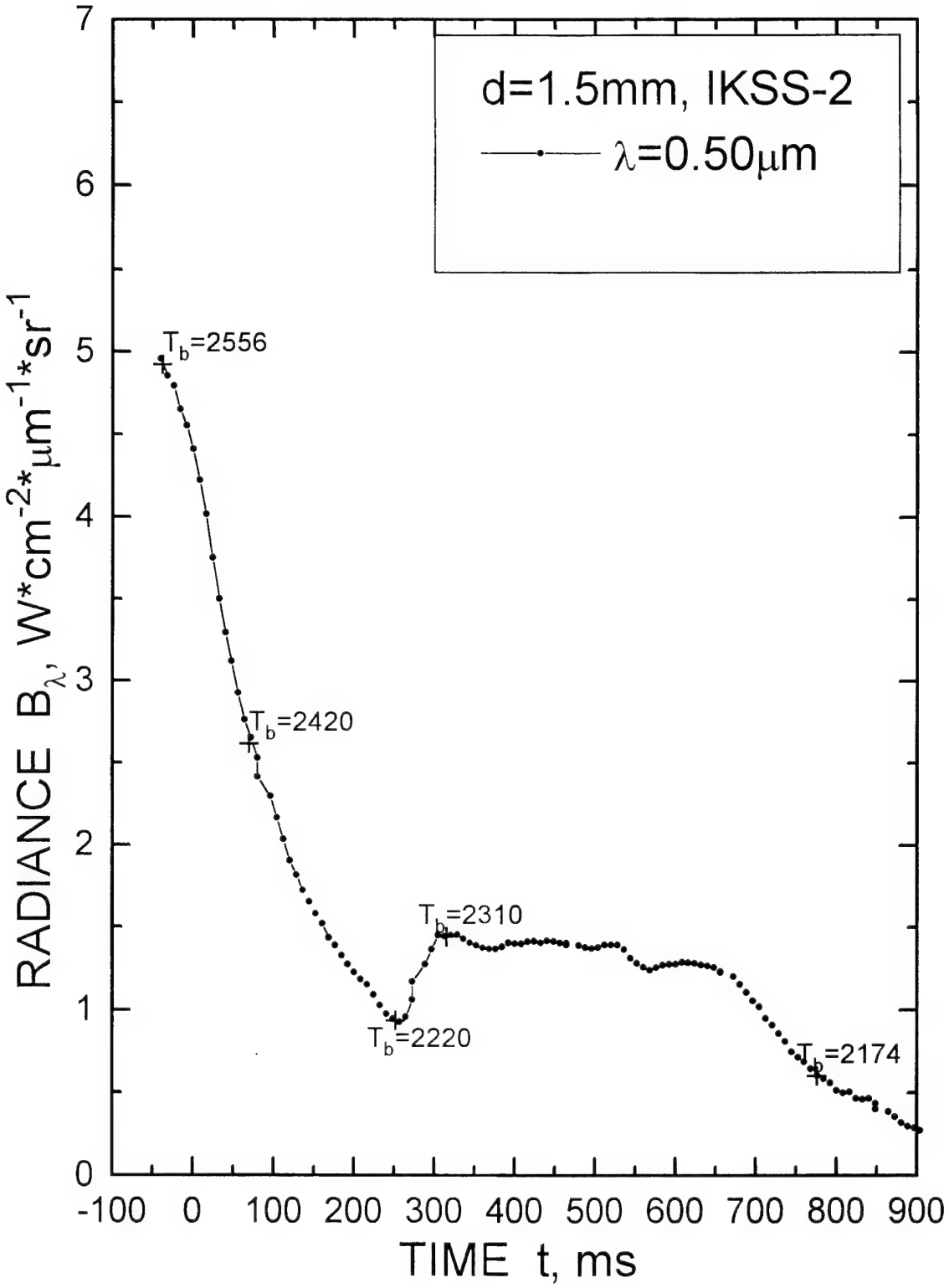

d=1.5mm, IKSS-2
λ=0.50μm
T_b=2556
T_b=2420
T_b=2310
T_b=2220
T_b=2174
RADIANCE B_λ, W*cm^{-2}*μm^{-1}*sr^{-1}
TIME t, ms
0
1
2
3
4
5
6
7
-100
0
100
200
300
400
500
600
700
800
900

Fig. 22

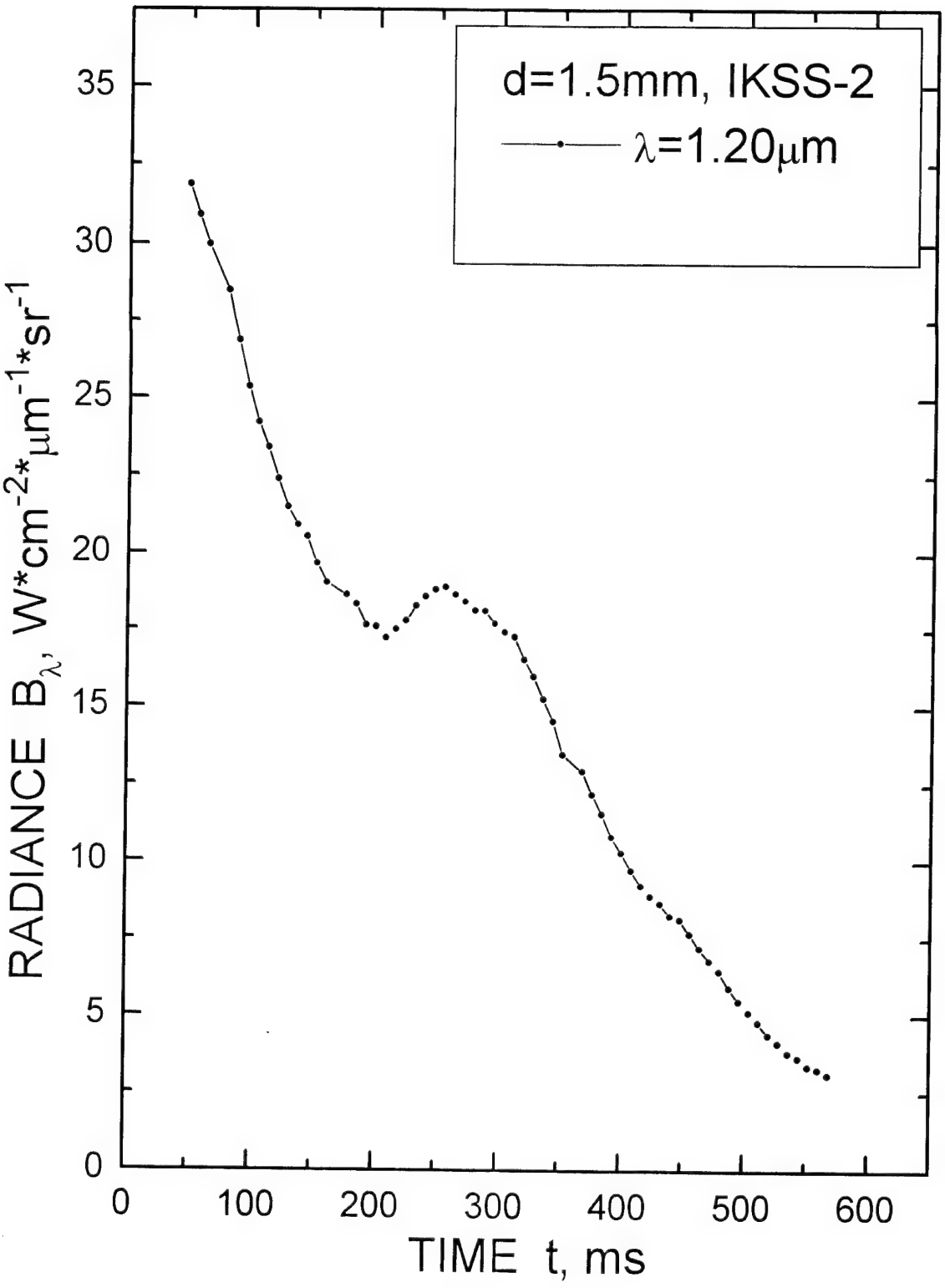

d=1.5mm, IKSS-2
λ=1.20μm
RADIANCE B_λ, $W*cm^{-2}*\mu m^{-1}*sr^{-1}$
TIME t, ms
0
5
10
15
20
25
30
35
0
100
200
300
400
500
600

Fig. 23

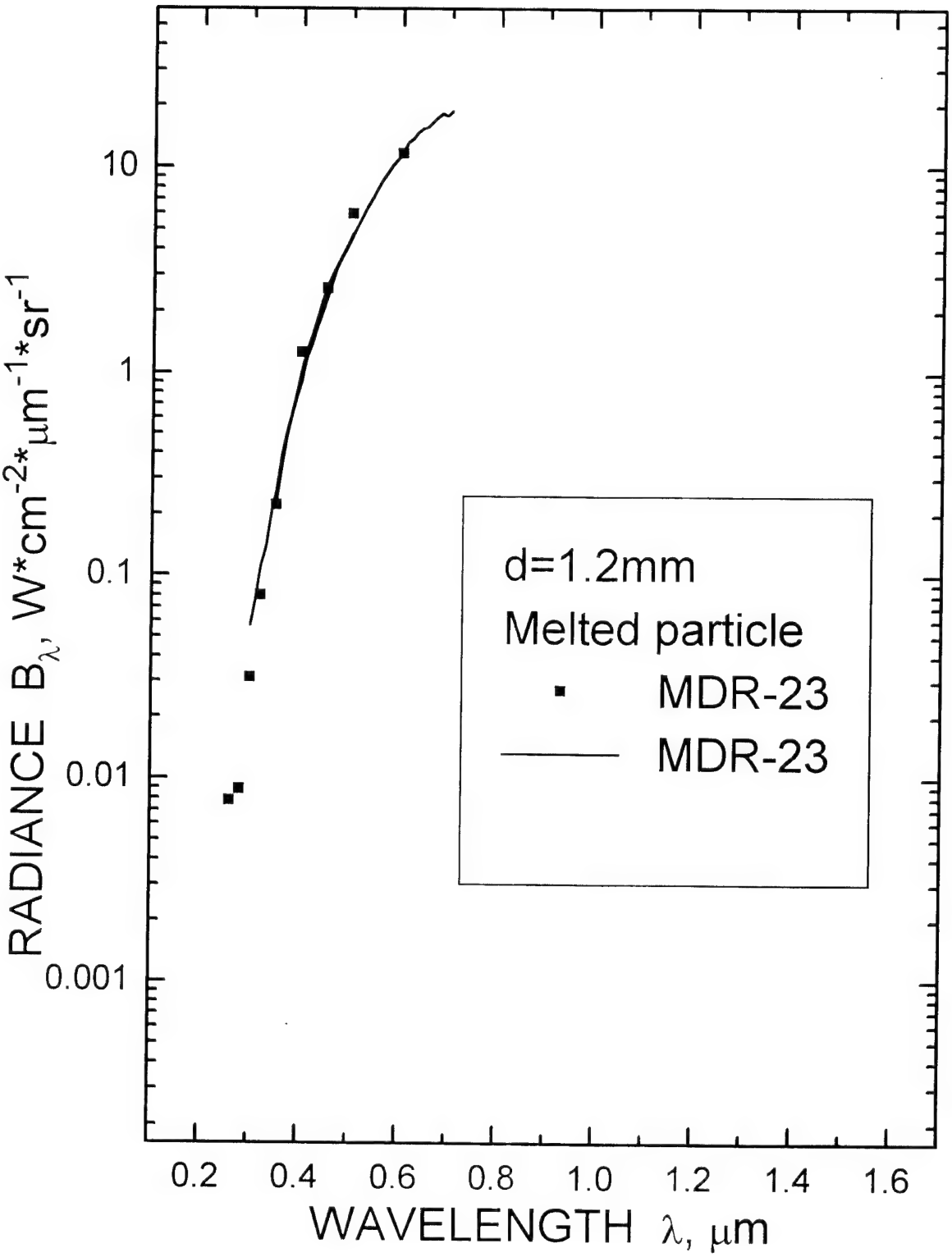

RADIANCE B_λ, $W*cm^{-2}*\mu m^{-1}*sr^{-1}$
10
1
0.1
0.01
0.001
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
WAVELENGTH λ, μm
d=1.2mm
Melted particle
MDR-23
MDR-23

Fig.24

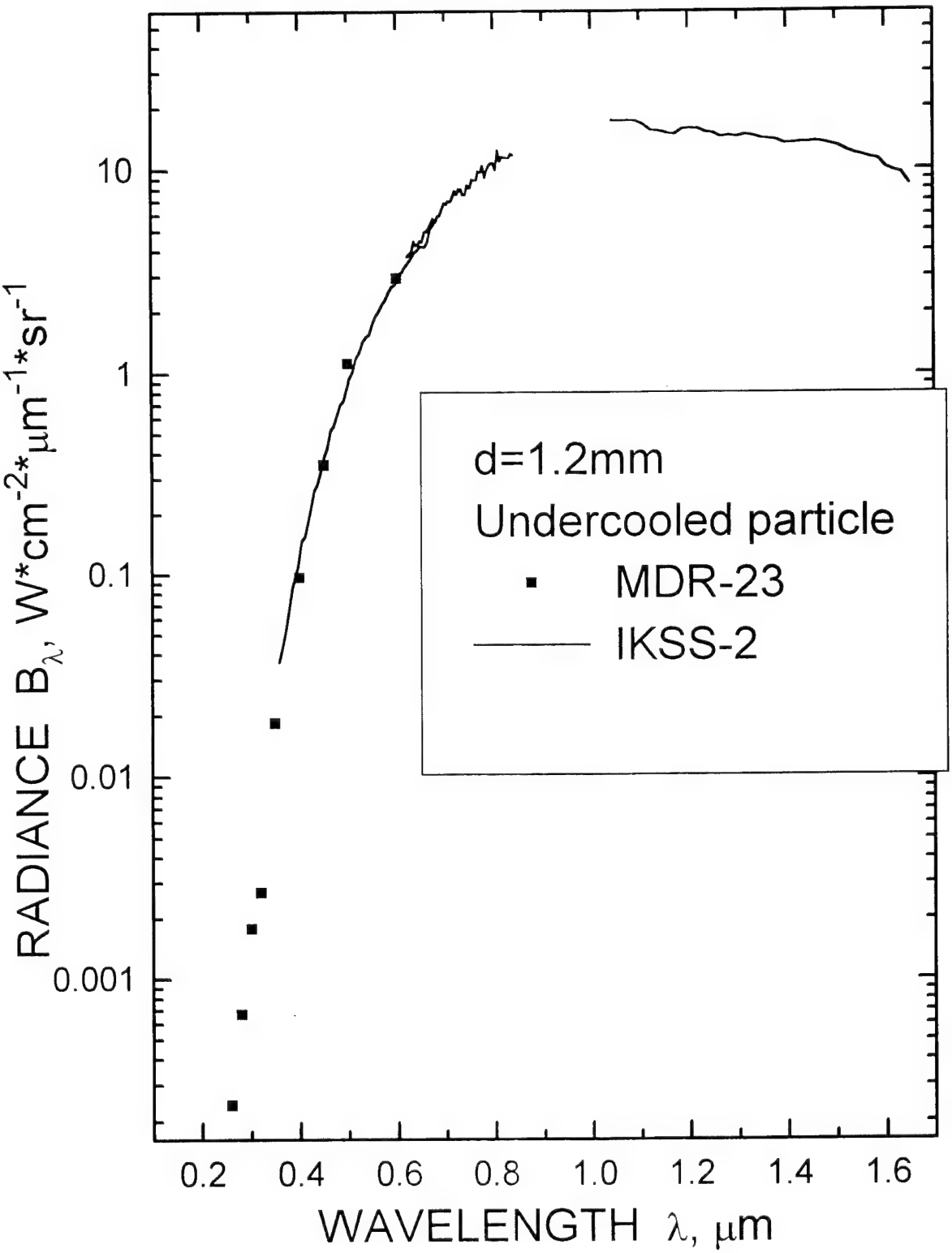

RADIANCE B_λ, $W*cm^{-2}*\mu m^{-1}*sr^{-1}$
10
1
0.1
0.01
0.001
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
WAVELENGTH λ, μm
d=1.2mm
Undercooled particle
MDR-23
IKSS-2

Fig. 25

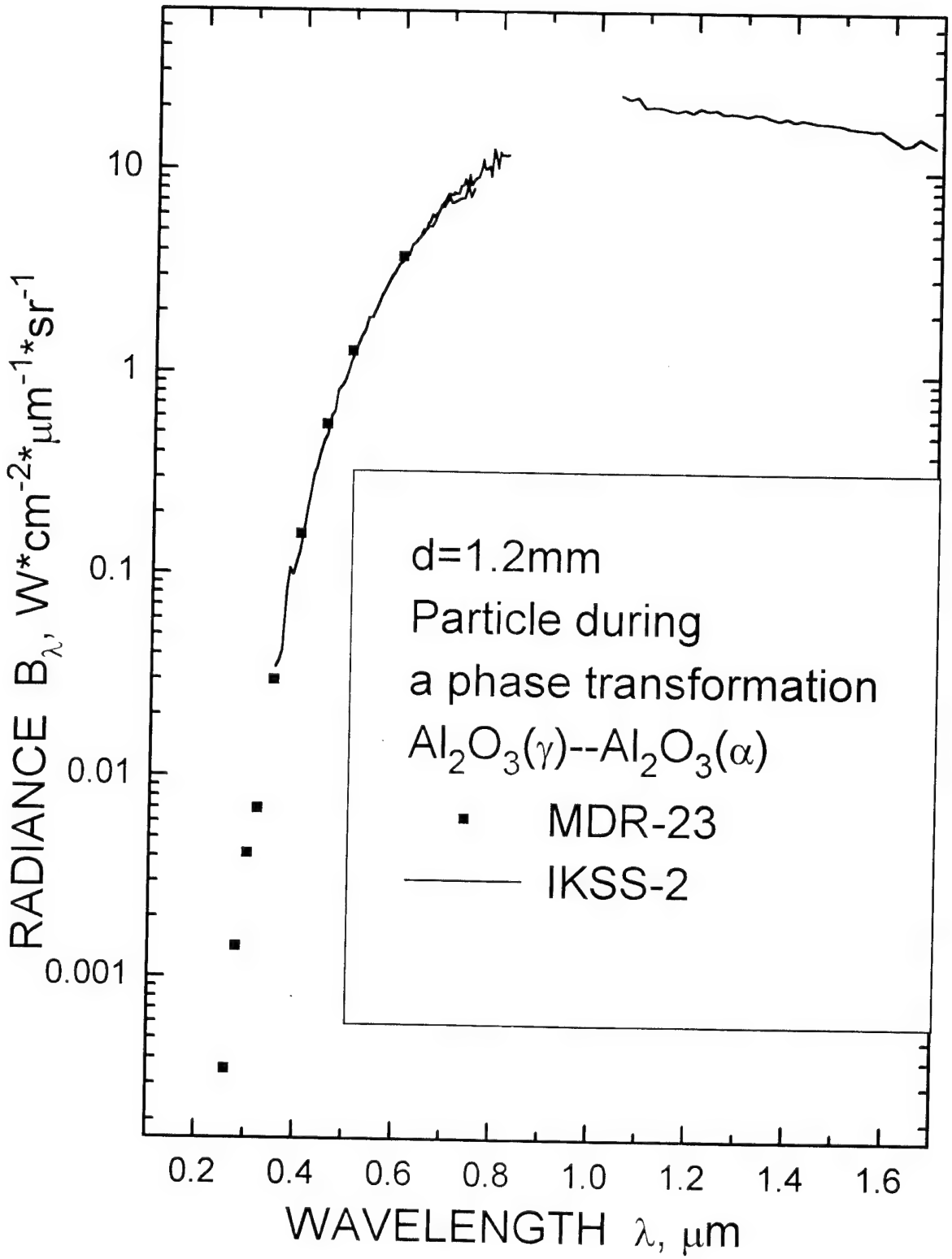

RADIANCE B_λ, $W*cm^{-2}*\mu m^{-1}*sr^{-1}$
10
1
0.1
0.01
0.001
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
WAVELENGTH λ, μm
d=1.2mm
Particle during
a phase transformation
$Al_2O_3(\gamma)$--$Al_2O_3(\alpha)$
MDR-23
IKSS-2

Fig. 26

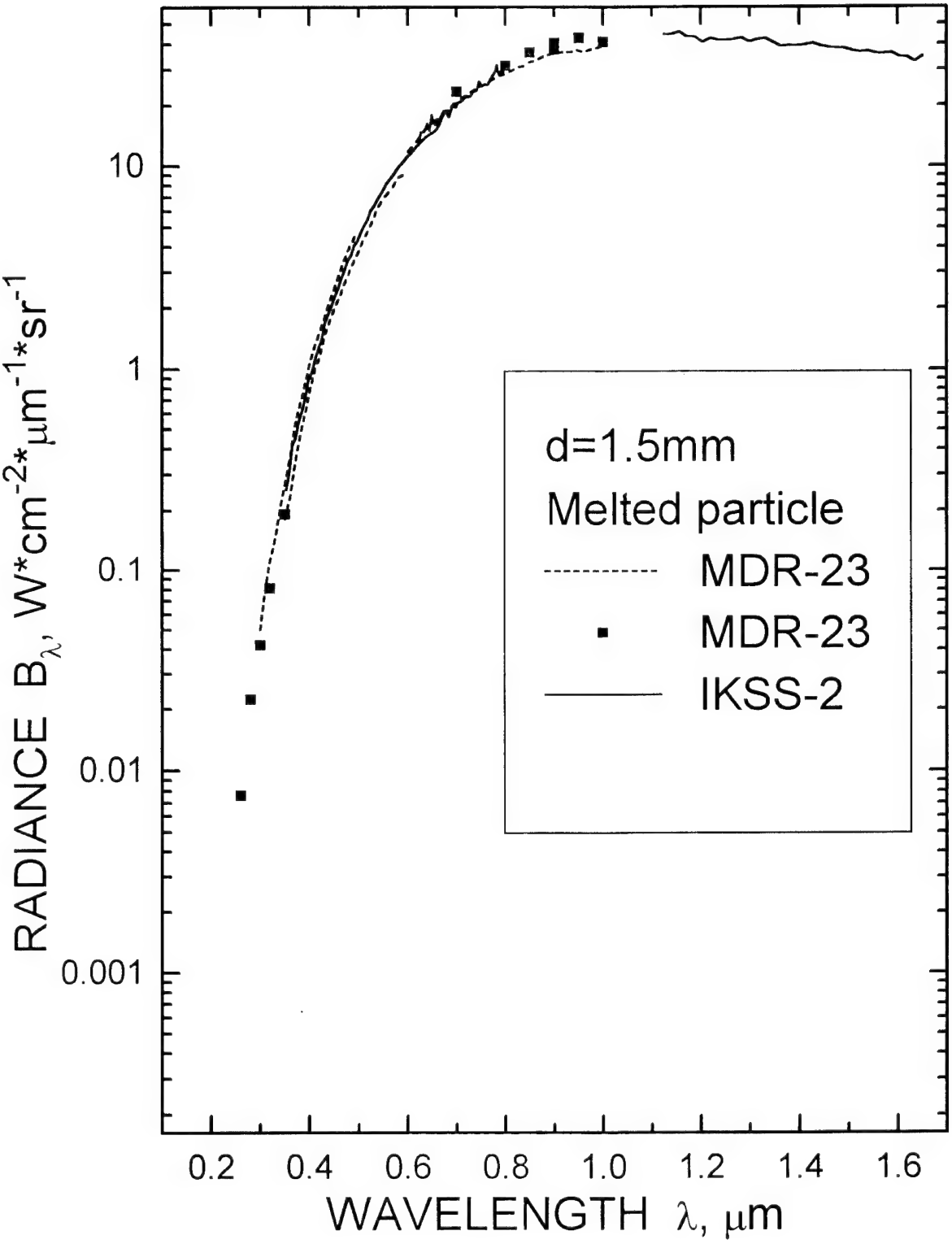

RADIANCE B_λ, $W*cm^{-2}*\mu m^{-1}*sr^{-1}$
10
1
0.1
0.01
0.001
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
WAVELENGTH λ, μm
d=1.5mm
Melted particle
MDR-23
MDR-23
IKSS-2

Fig.27

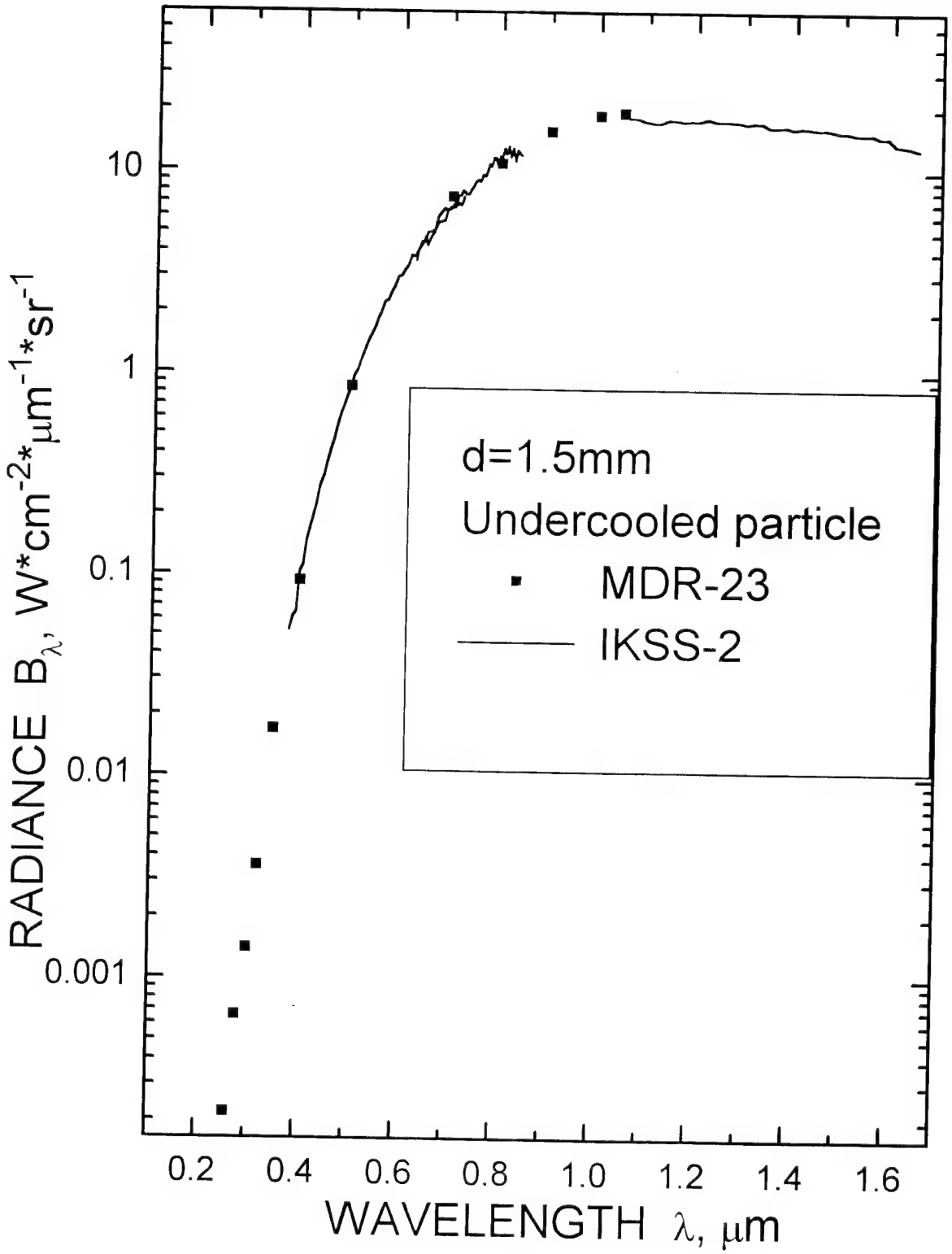

RADIANCE B_λ, $W*cm^{-2}*\mu m^{-1}*sr^{-1}$
10
1
0.1
0.01
0.001
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
WAVELENGTH λ, μm
d=1.5mm
Undercooled particle
MDR-23
IKSS-2

Fig. 28

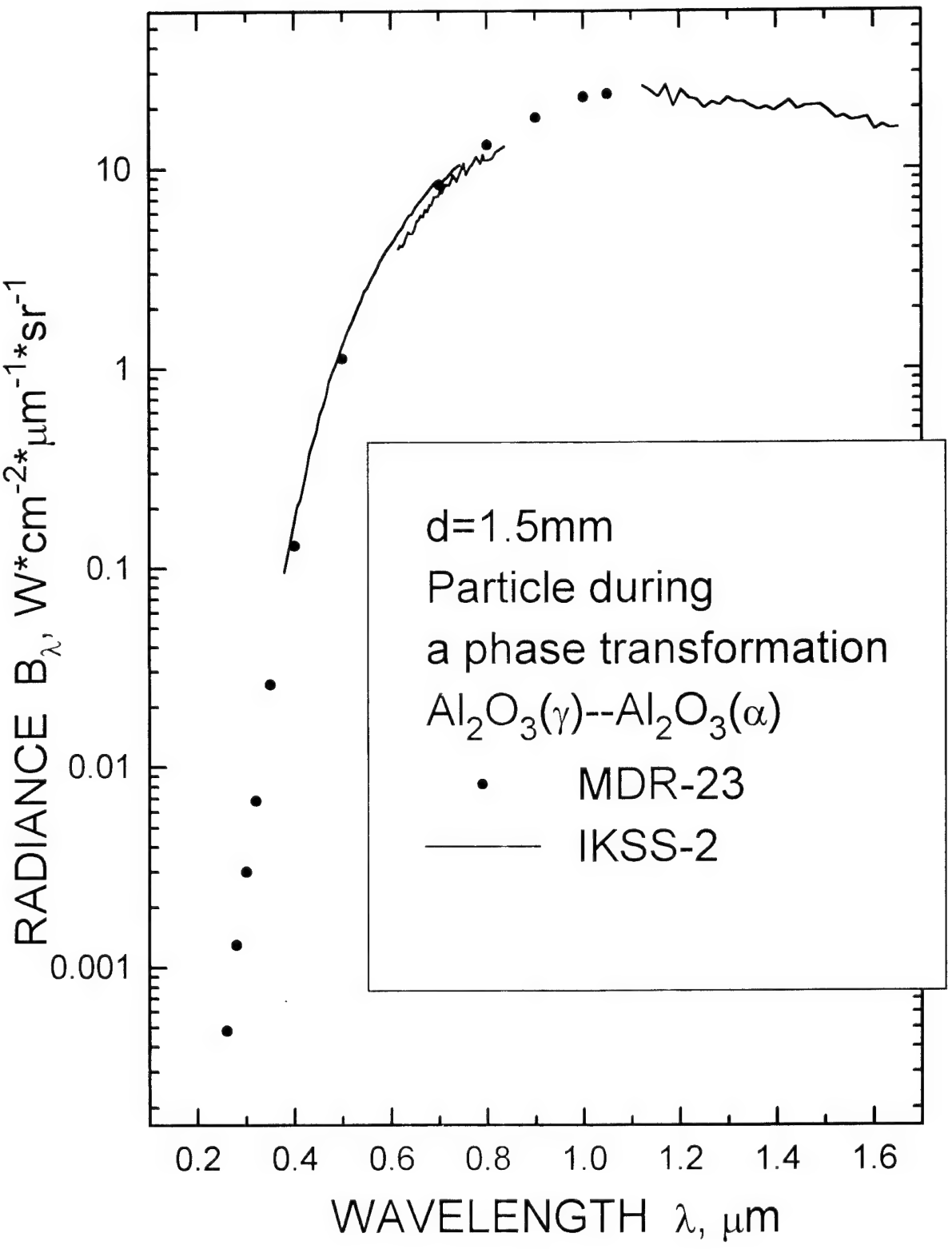

RADIANCE B_λ, $W*cm^{-2}*\mu m^{-1}*sr^{-1}$
10
1
0.1
0.01
0.001
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
WAVELENGTH λ, μm
d=1.5mm
Particle during
a phase transformation
$Al_2O_3(\gamma)$--$Al_2O_3(\alpha)$
MDR-23
IKSS-2

Fig. 29

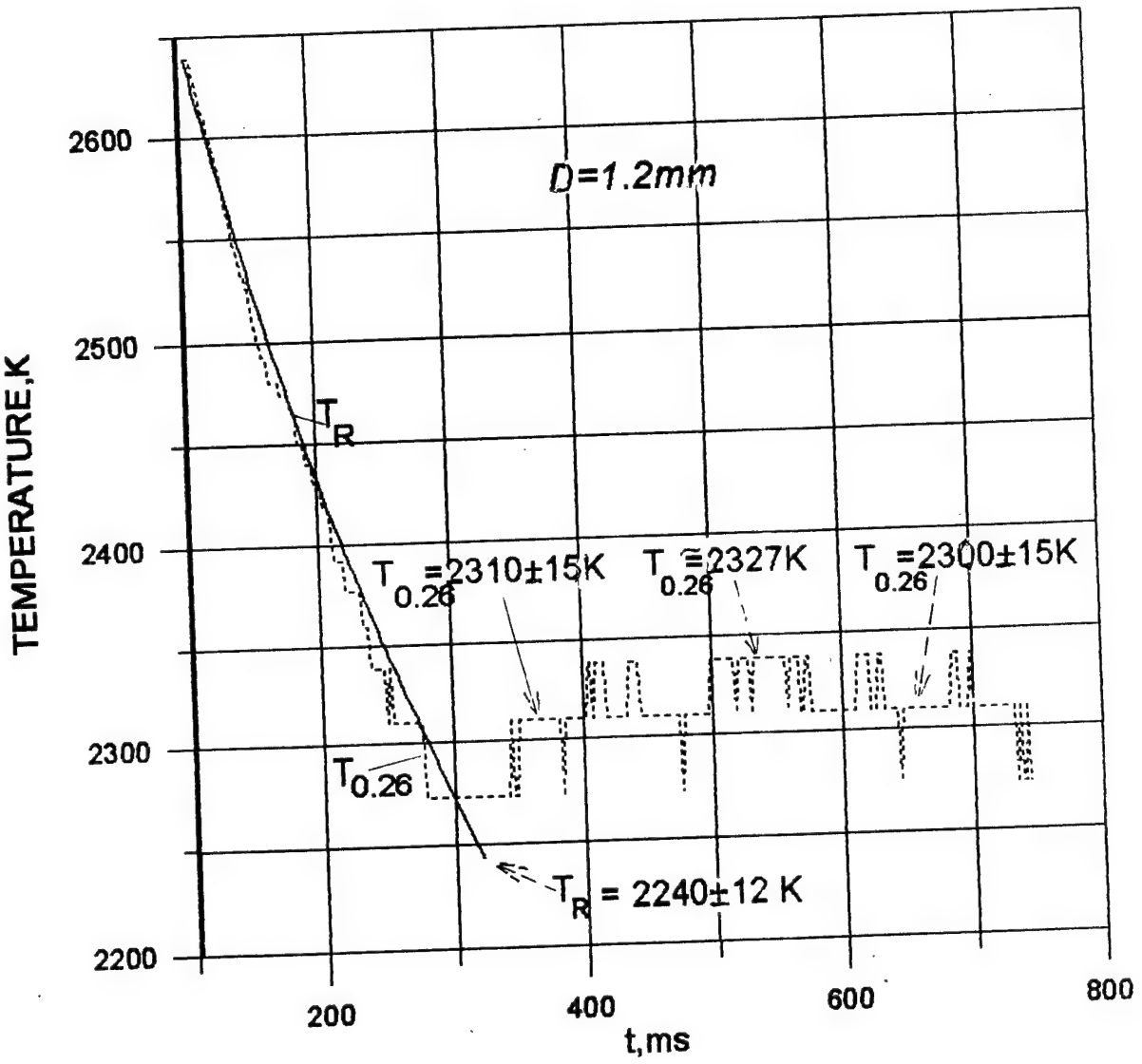

D=1.2mm
TEMPERATURE,K
2600
2500
2400
2300
2200
200
400
600
800
t,ms
T_R
T_0.26 =2310±15K
T_0.26 =2327K
T_0.26 =2300±15K
T_0.26
T_R = 2240±12 K

FIG.30a

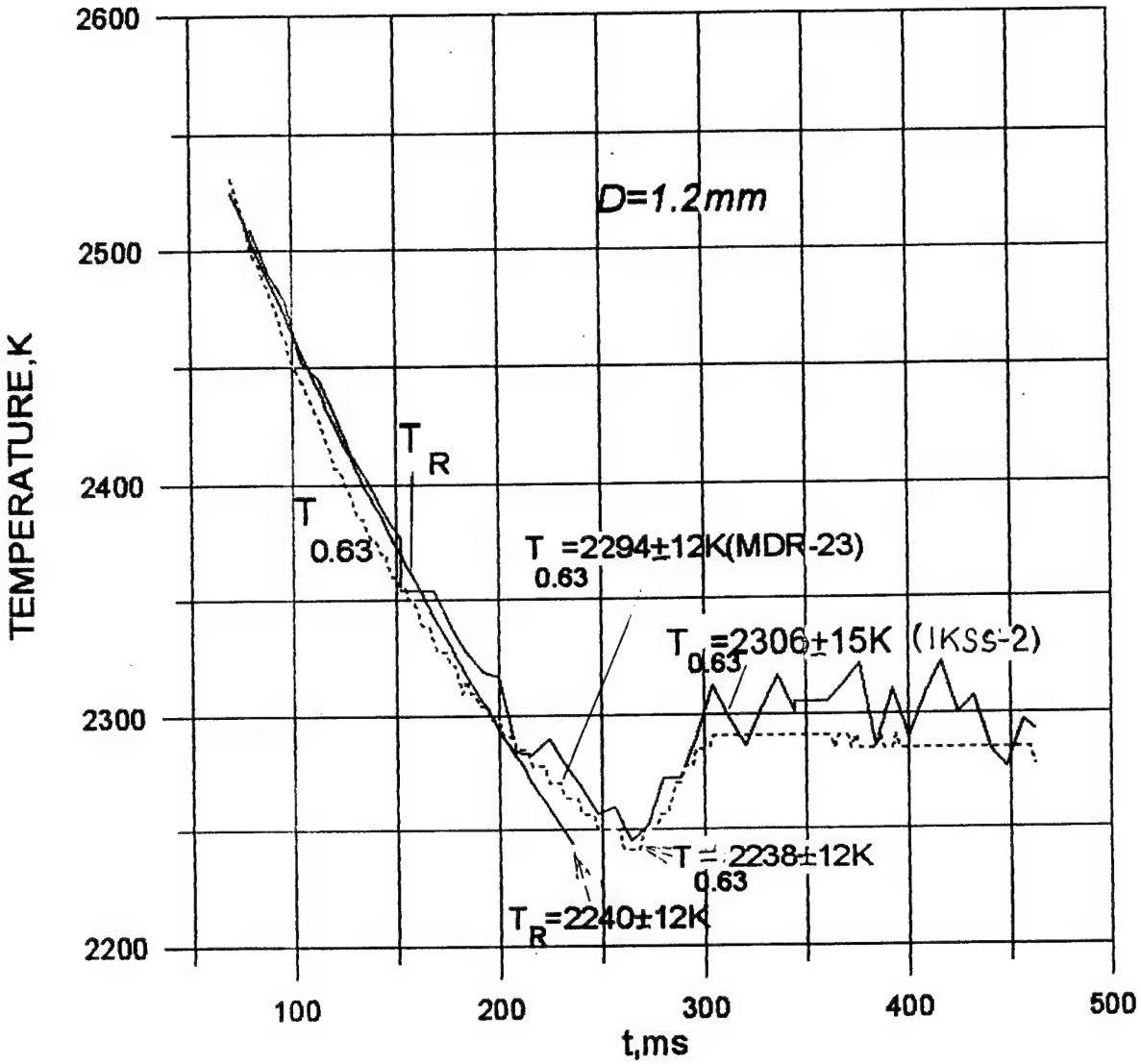

2600
2500
2400
2300
2200
TEMPERATURE,K
D=1.2mm
T R
T 0.63
T 0.63 =2294±12K(MDR-23)
T 0.63 =2306±15K (IKSS-2)
T 0.63 =2238±12K
T R =2240±12K
100
200
300
400
500
t,ms

FIG. 30b

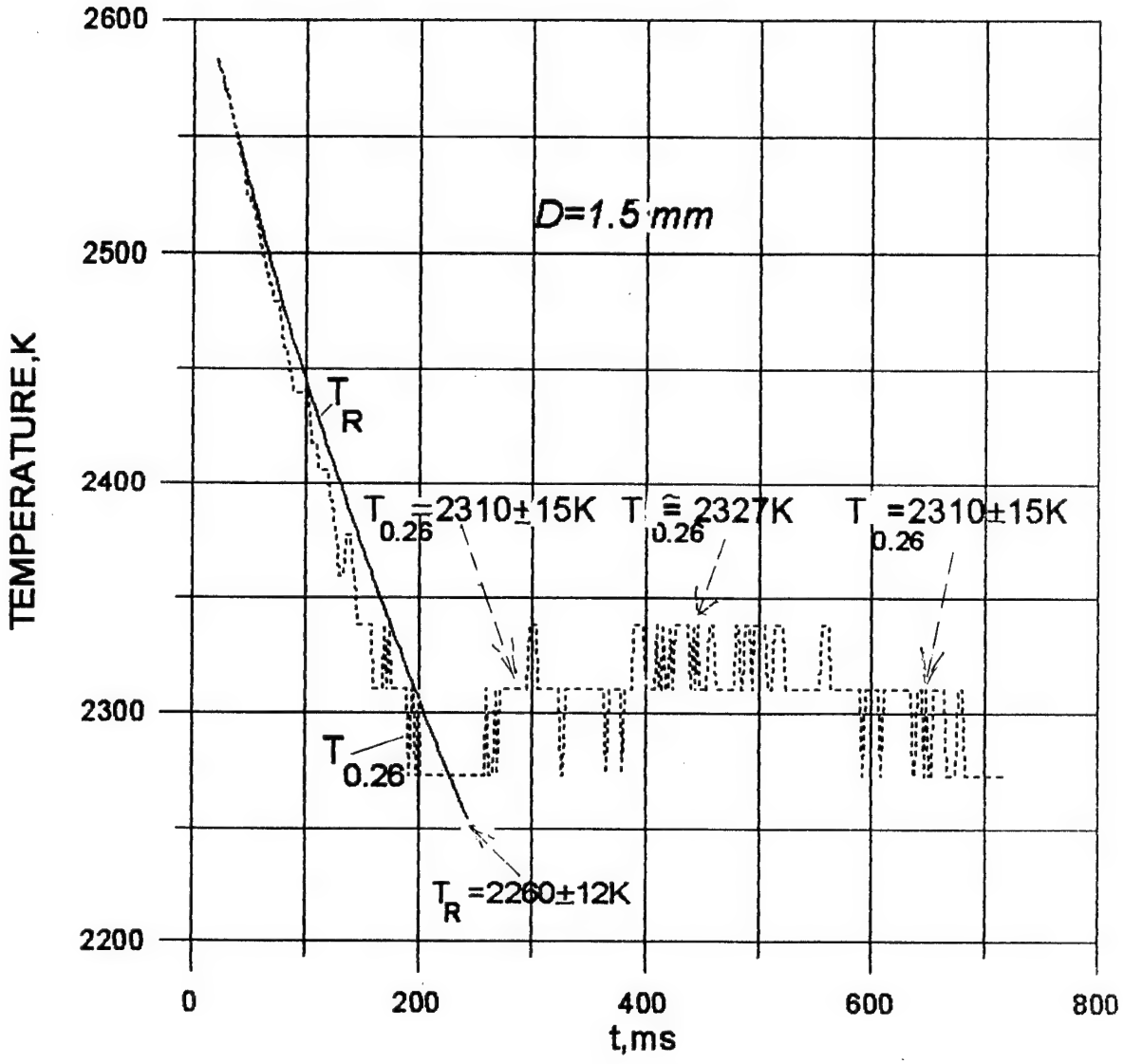

2600
2500
2400
2300
2200
TEMPERATURE,K
D=1.5 mm
T R
T 0.26 =2310±15K
T 0.26 ≅ 2327K
T 0.26 =2310±15K
T 0.26
T R =2260±12K
0
200
400
600
800
t,ms

FIG.31

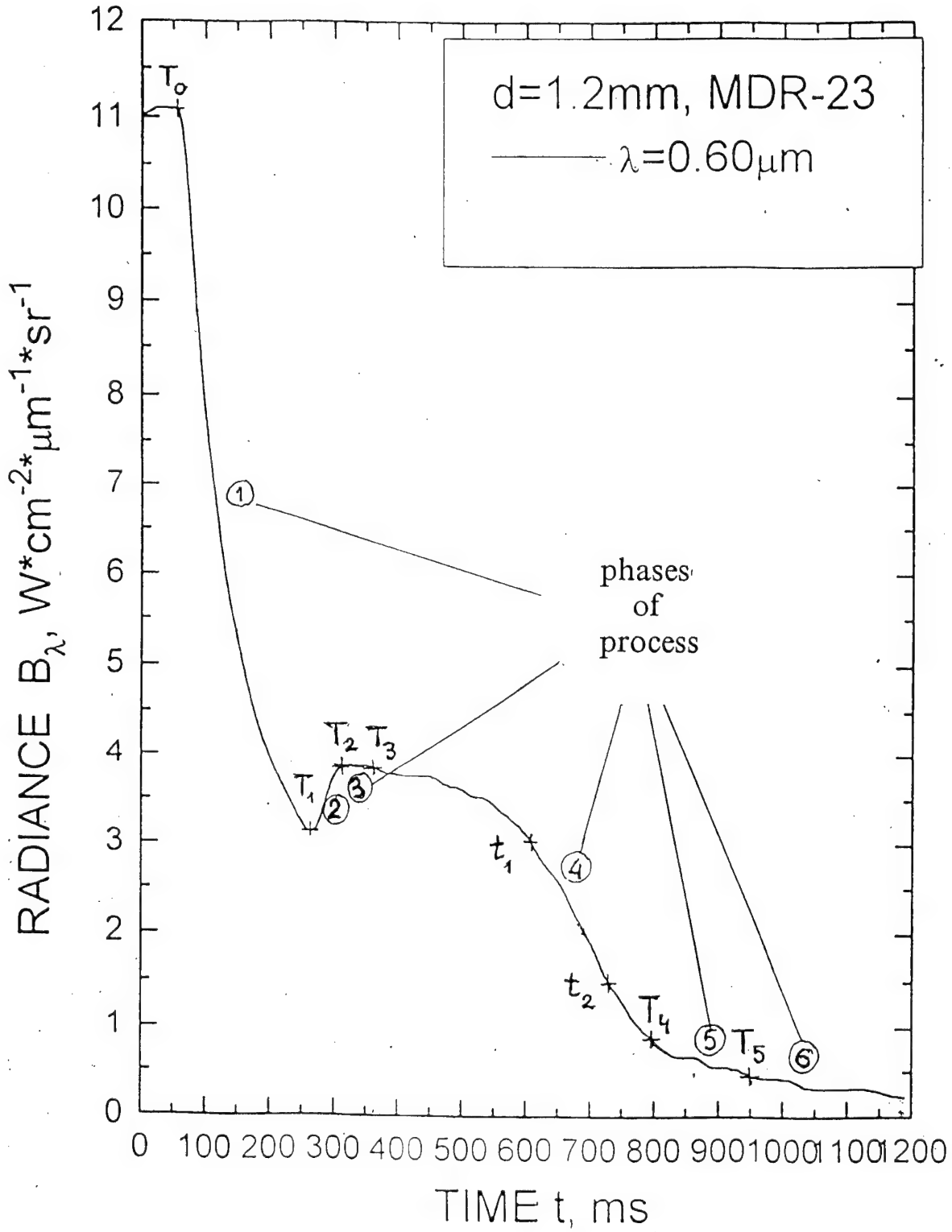
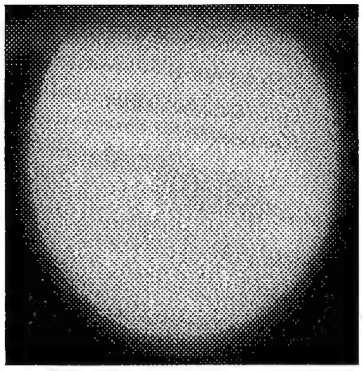
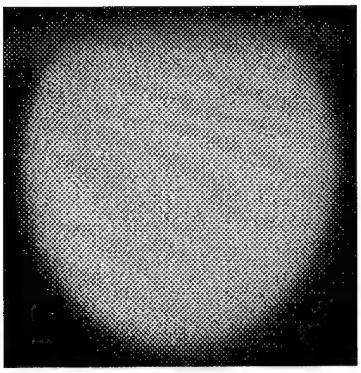

d=1.2mm, MDR-23
λ=0.60μm
RADIANCE B_λ, $W*cm^{-2}*\mu m^{-1}*sr^{-1}$
TIME t, ms
phases of process
T_0
T_1
T_2
T_3
T_4
T_5
t_1
t_2
①
②
③
④
⑤
⑥
0
1
2
3
4
5
6
7
8
9
10
11
12
0 100 200 300 400 500 600 700 800 900 1000 1100 1200

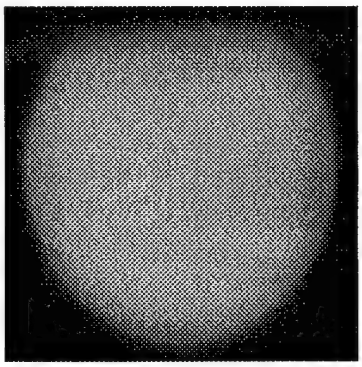
Fig. 32



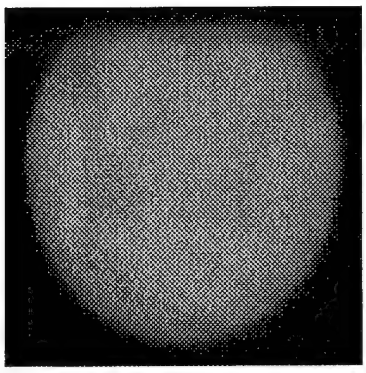
Frame 1



Frame 2

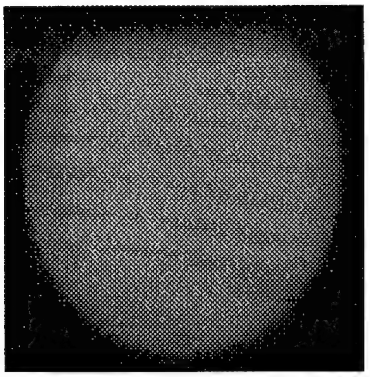


Frame 3

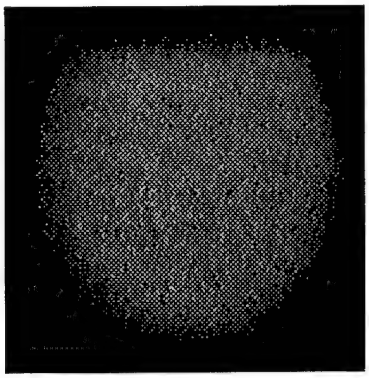


Frame 4

Fig. 33. The radiative cooling stage (phase 1).

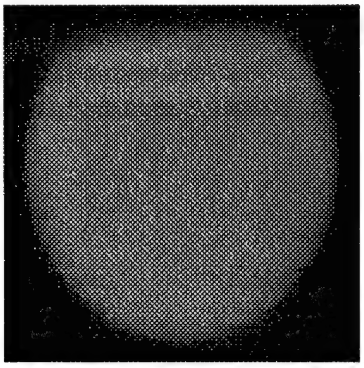


Frame 5a

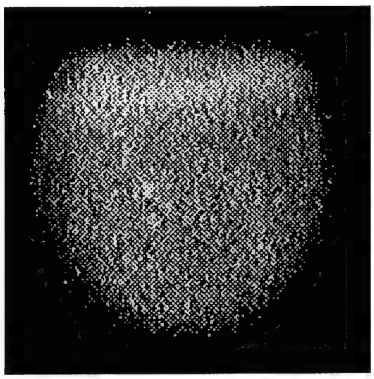


Frame 5b
(contrast enhanced)

The arrow shows the position of the crystallization front at the boundary between liquid- and γ-phases.



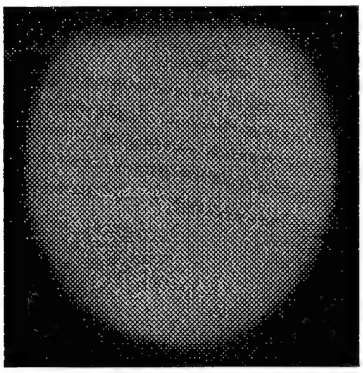
Frame 6a



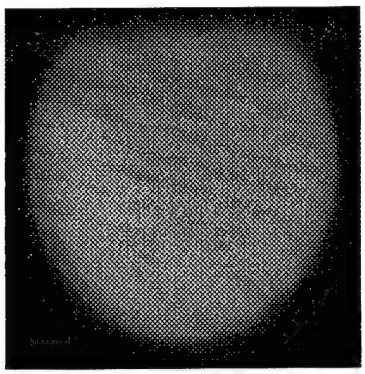
Frame 6b
(contrast enhanced)

The arrow shows the crystallization front moving along a particle surface.

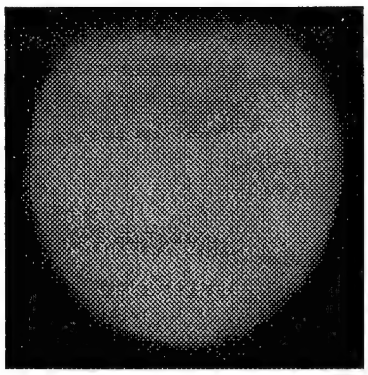
Fig. 34. The initial crystallization stage.



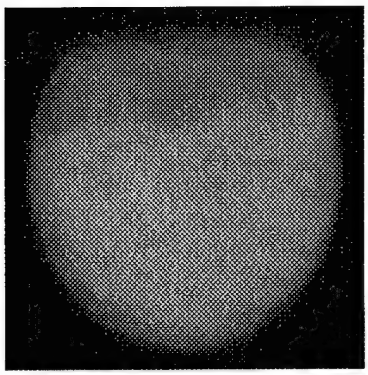
Frame 7



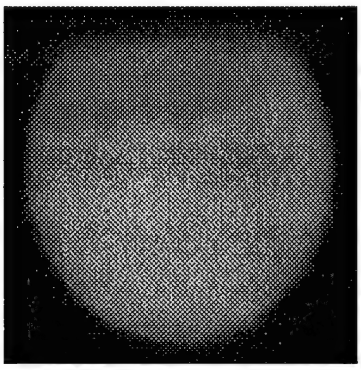
Frame 8



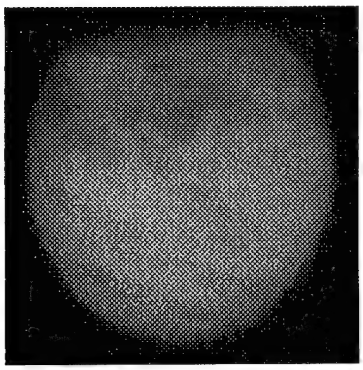
Frame 9



Frame 10

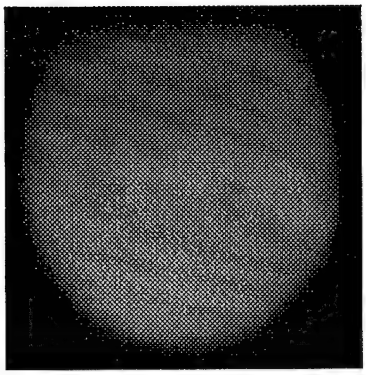


Frame 11

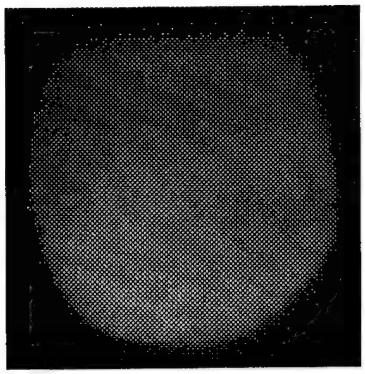


Frame 12

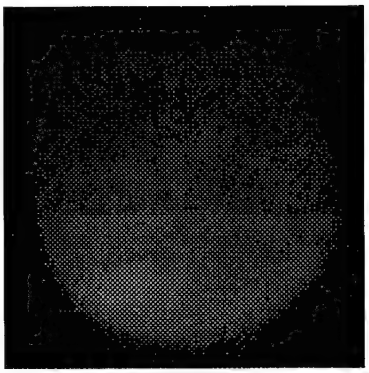
Fig. 35. The crystallization stage: transformation "liquid $\rightarrow \gamma$" and "$\gamma \rightarrow \alpha$".



Frame 13



Frame 14



Frame 15

Fig.35 (continued).

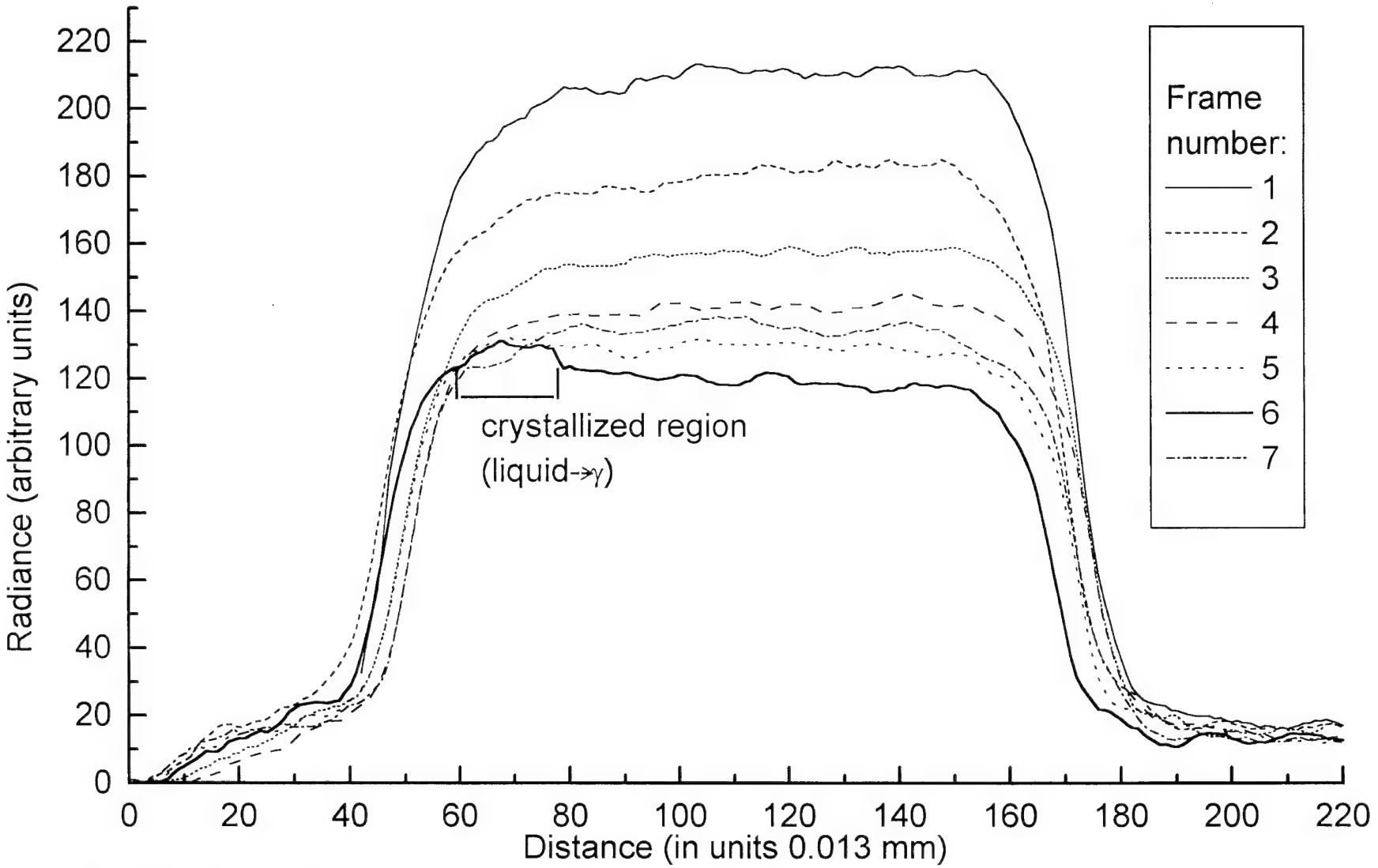


Fig36 The particle radiance profile (scan direction is perpendicular to phase boundary).

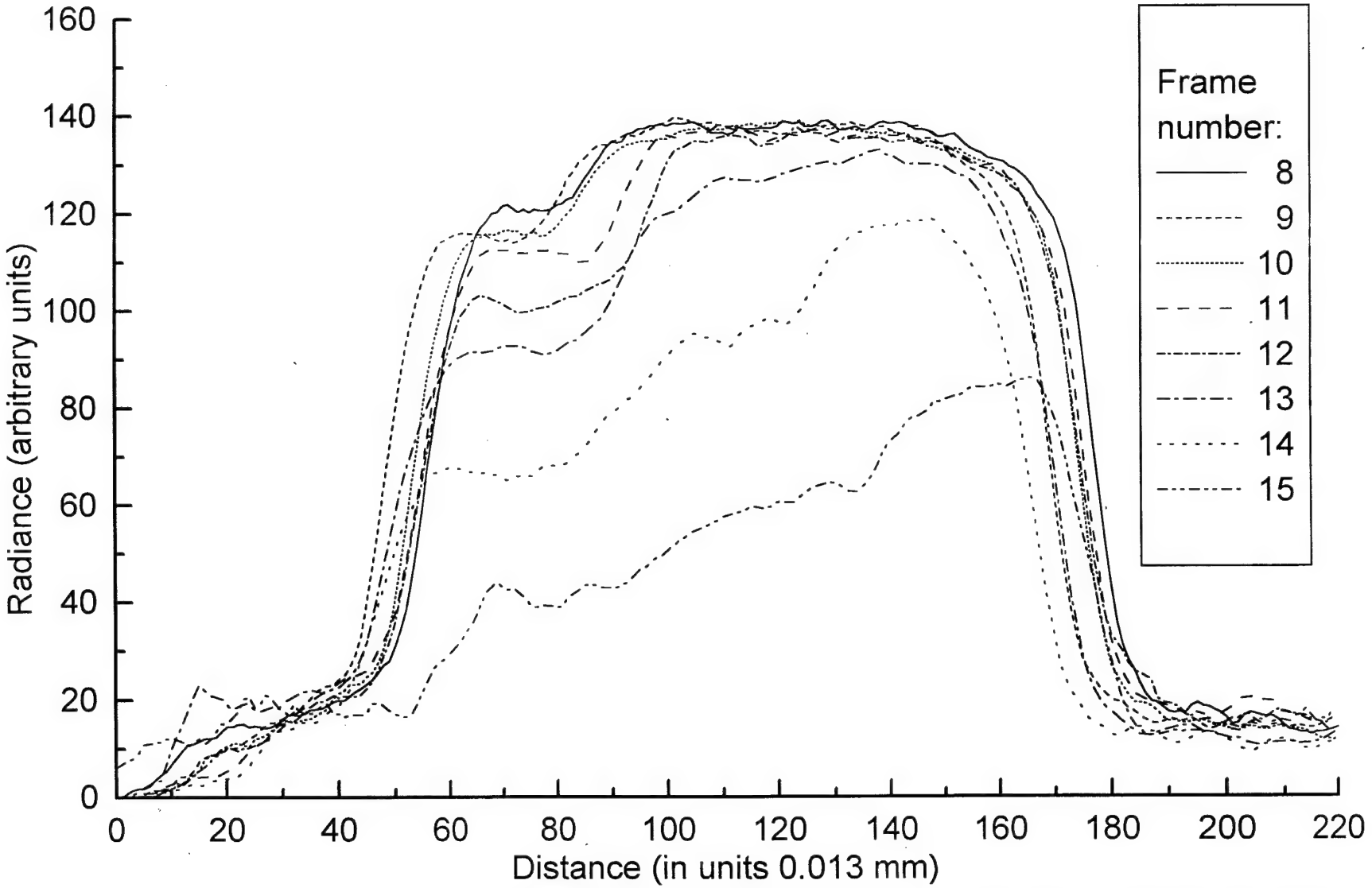


Fig.37. The particle radiance profile (scan direction is perpendicular to phase boundary).

State 1

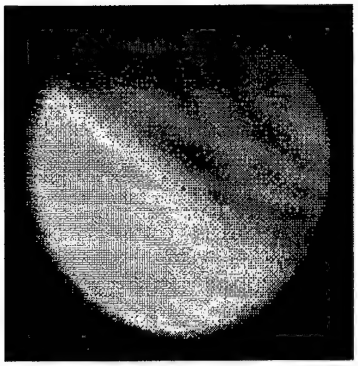


Fig. 38. The image of particle (d=1.5 mm) in the γ-phase (state 1).

State 2

Fig. 39. The image of particle (d=1.5 mm) in the α-phase (state 2).

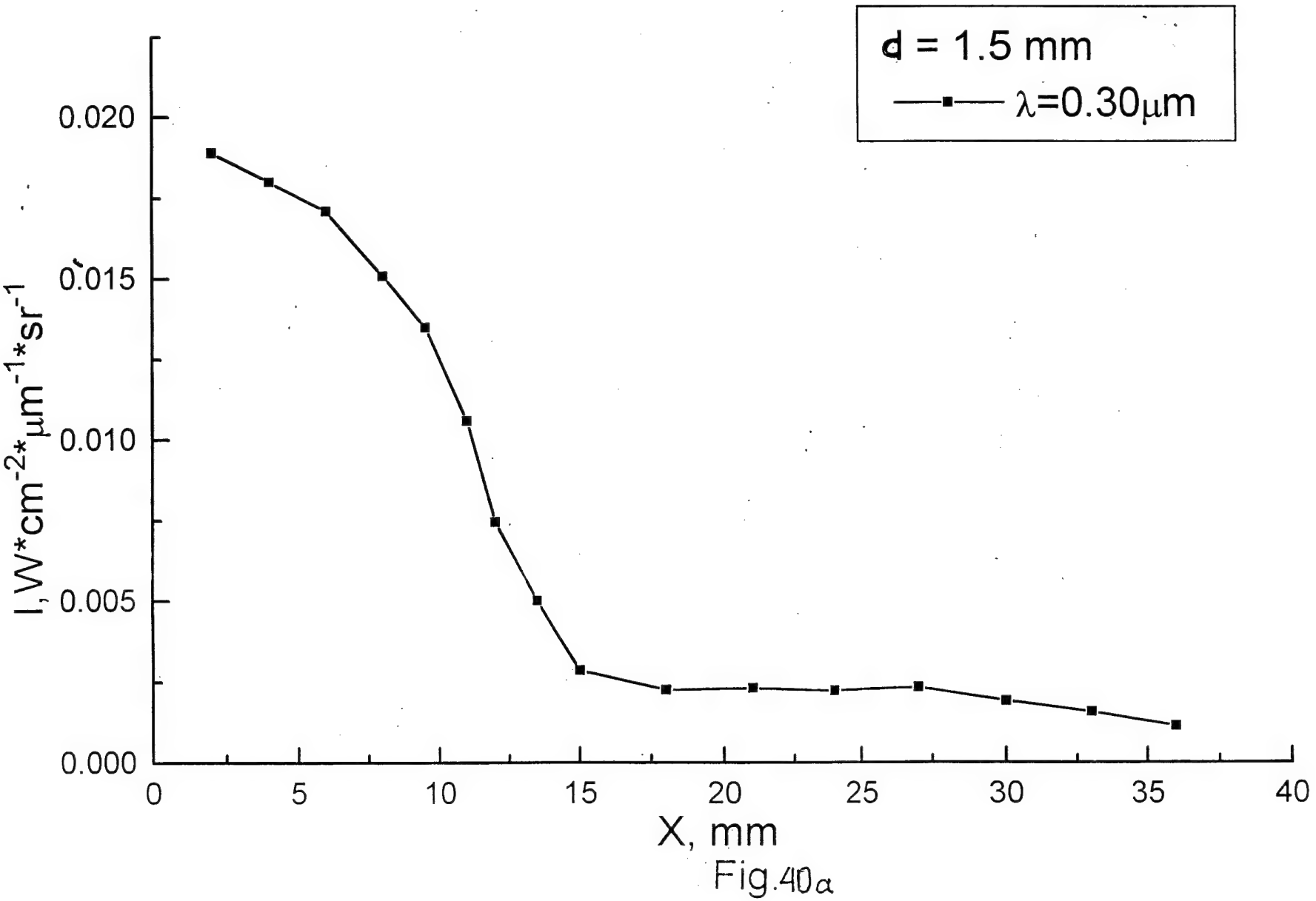

d = 1.5 mm
λ=0.30μm
I, W*cm-2*μm-1*sr-1
0.020
0.015
0.010
0.005
0.000
0
5
10
15
20
25
30
35
40
X, mm

Fig.40α

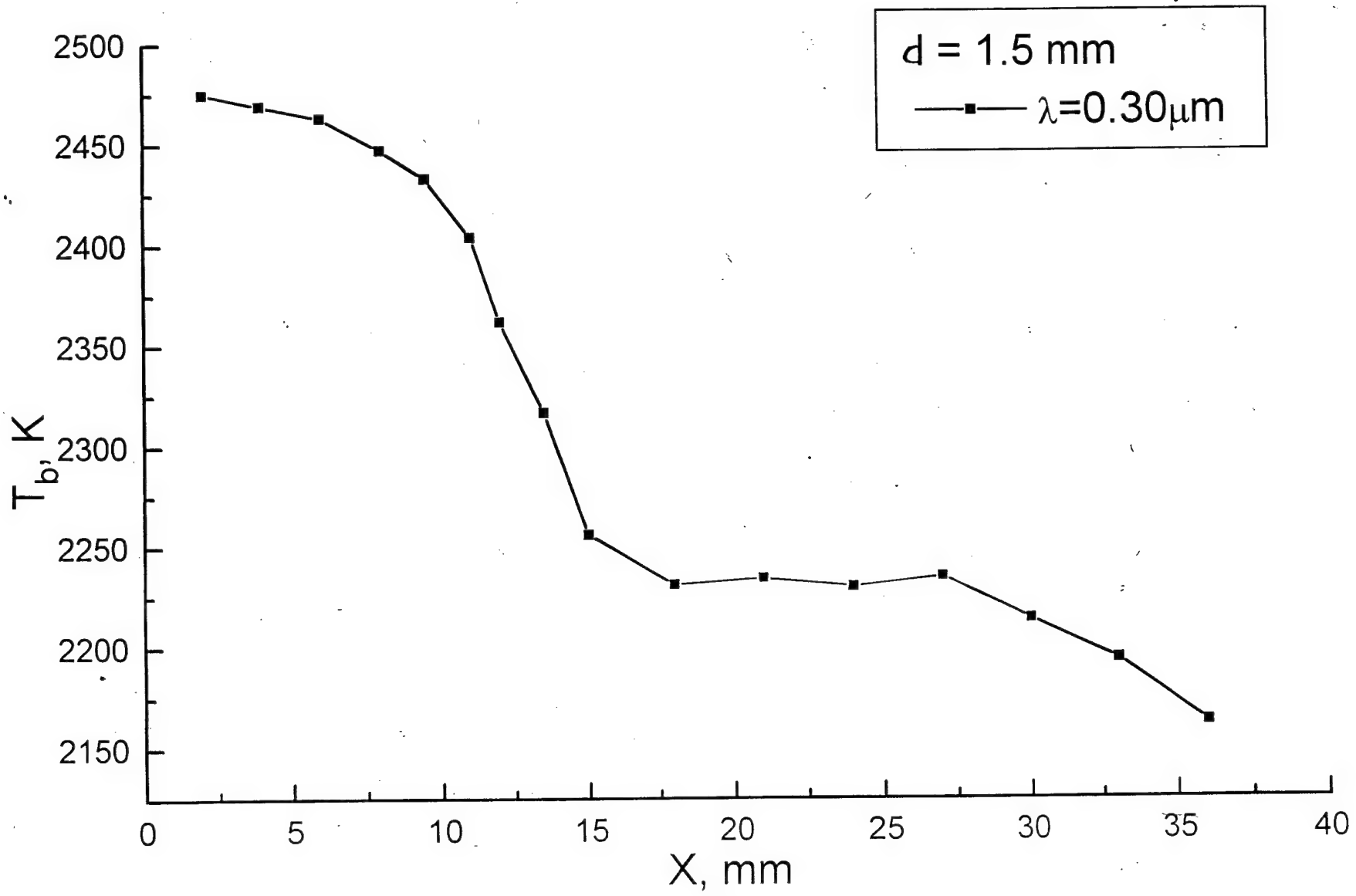

d = 1.5 mm
λ=0.30μm
2500
2450
2400
2350
2300
2250
2200
2150
T_b, K
0
5
10
15
20
25
30
35
40
X, mm

Fig.40b

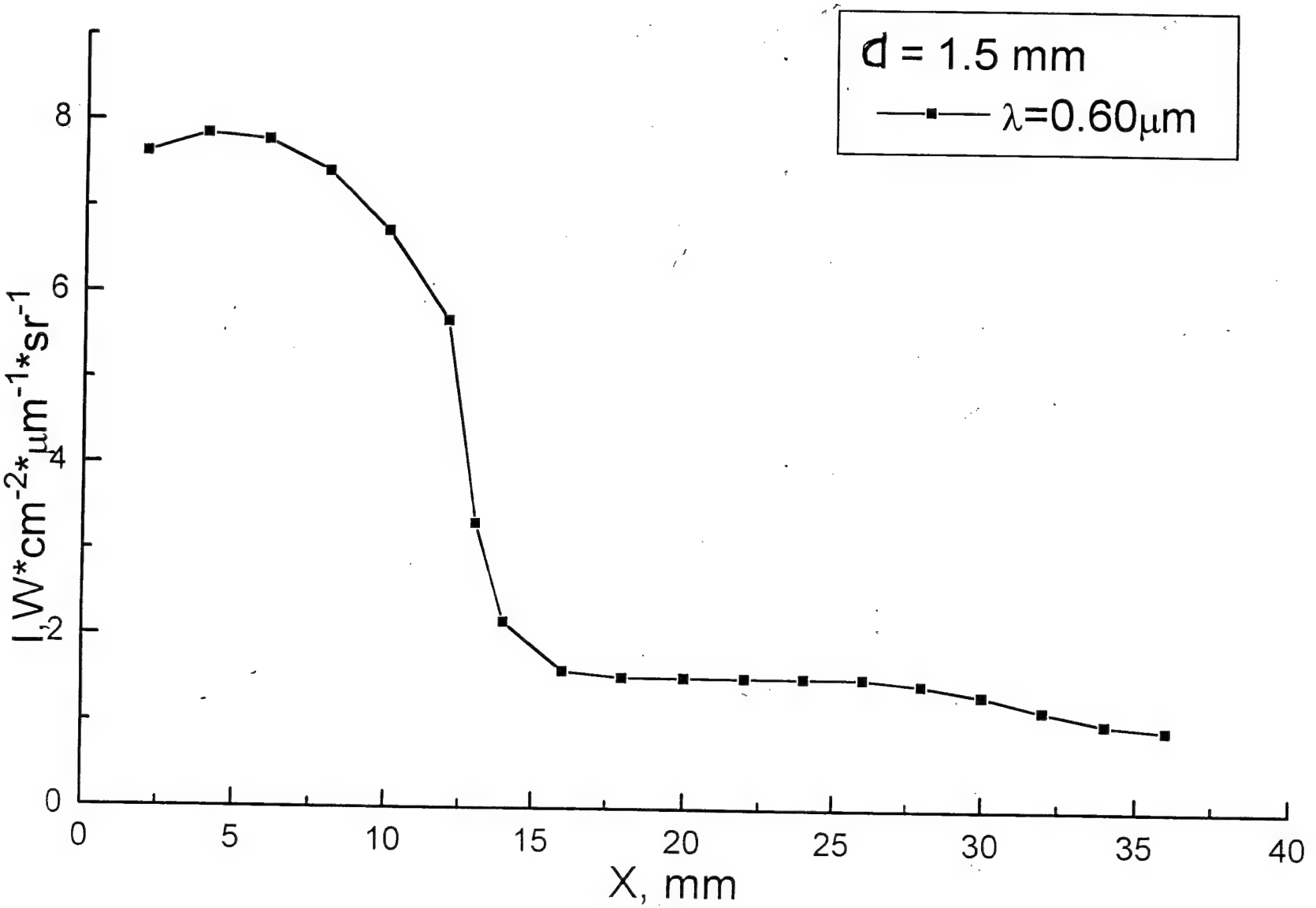


Fig. 41a

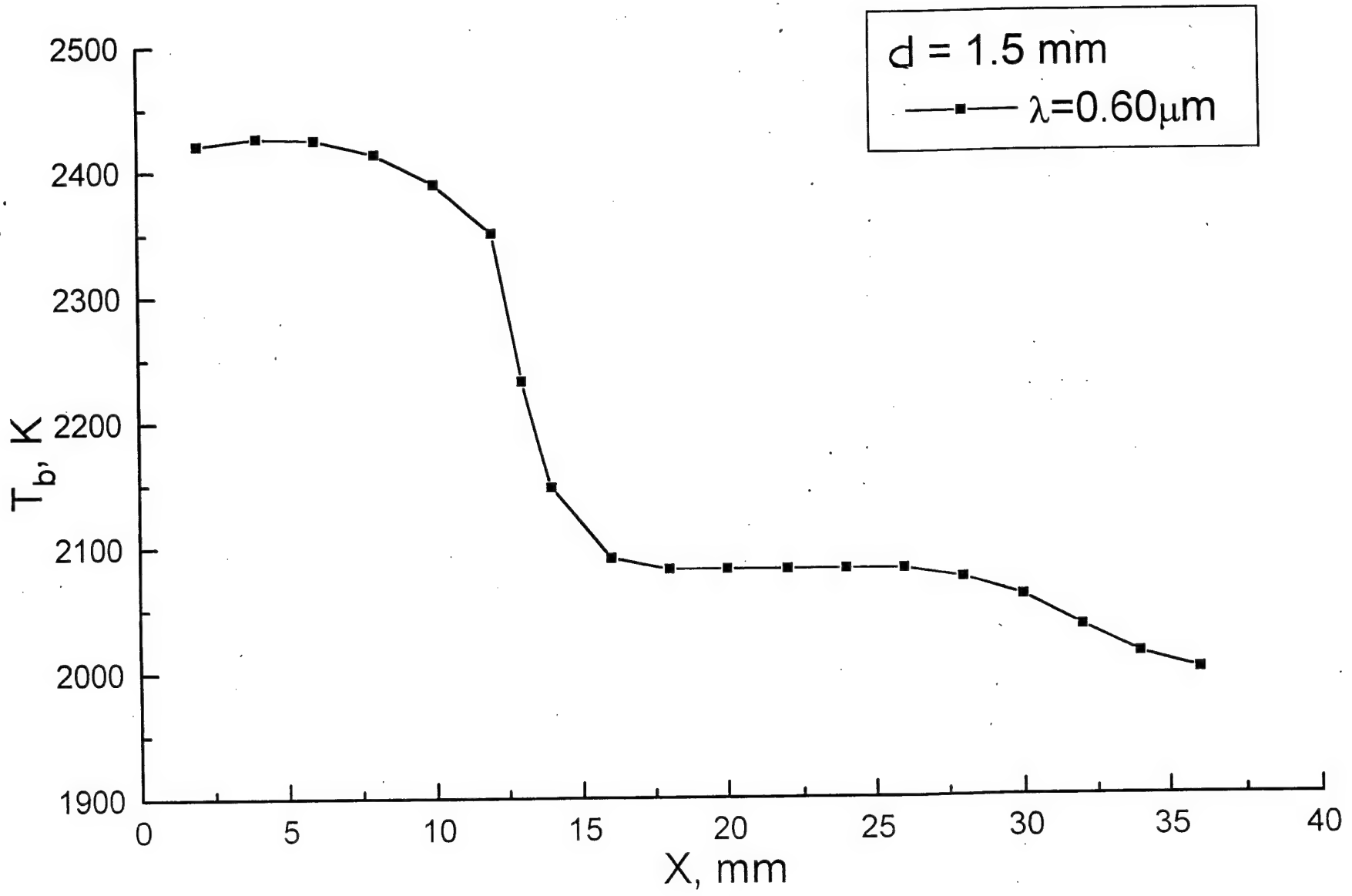

d = 1.5 mm
λ=0.60μm
2500
2400
2300
2200
2100
2000
1900
T_b, K
0
5
10
15
20
25
30
35
40
X, mm

Fig.41b

SPECTRAL RADIANCES AND RADIANCE TEMPERATURES OF ALUMINA PARTICLE DURING ITS COOLING AND PHASE TRANSFORMATIONS

Specifications:

B_λ - spectral radiance, W/ ($cm^2 \cdot sr \cdot \mu m$)

D - particle diameter, mm

t - time, ms

λ - wavelength, μm

T_b - radiance temperature, K

T - real temperature, K

MDR-23 - radiance measurement by monochromator MDR-23

IKSS-2 - radiance measurement by scanning spectrometer IKSS-2

TABLE 1

D=1.2mm λ=0.26μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
2	2634	.756E-02	120	2598	.561E-02	238	2327	.469E-03
4	2634	.756E-02	122	2590	.526E-02	240	2327	.469E-03
6	2634	.756E-02	124	2584	.503E-02	242	2327	.469E-03
8	2636	.767E-02	126	2582	.492E-02	244	2327	.469E-03
10	2634	.756E-02	128	2576	.469E-02	246	2327	.469E-03
12	2634	.756E-02	130	2570	.446E-02	248	2327	.469E-03
14	2638	.779E-02	132	2564	.423E-02	250	2300	.355E-03
16	2638	.779E-02	134	2554	.389E-02	252	2327	.469E-03
18	2638	.779E-02	136	2547	.366E-02	254	2300	.355E-03
20	2636	.767E-02	138	2539	.343E-02	256	2300	.355E-03
22	2634	.756E-02	140	2535	.332E-02	258	2300	.355E-03
24	2634	.756E-02	142	2531	.320E-02	260	2300	.355E-03
26	2634	.756E-02	144	2527	.309E-02	262	2300	.355E-03
28	2634	.756E-02	146	2518	.286E-02	264	2300	.355E-03
30	2634	.756E-02	148	2518	.286E-02	266	2300	.355E-03
32	2633	.744E-02	150	2513	.275E-02	268	2300	.355E-03
34	2633	.744E-02	152	2509	.263E-02	270	2300	.355E-03
36	2634	.756E-02	154	2498	.240E-02	272	2300	.355E-03
38	2634	.756E-02	156	2493	.229E-02	274	2300	.355E-03
40	2633	.744E-02	158	2487	.218E-02	276	2300	.355E-03
42	2636	.767E-02	160	2481	.206E-02	278	2263	.241E-03
44	2638	.779E-02	162	2481	.206E-02	280	2263	.241E-03
46	2636	.767E-02	164	2475	.195E-02	282	2263	.241E-03
48	2636	.767E-02	166	2468	.183E-02	284	2263	.241E-03
50	2636	.767E-02	168	2468	.183E-02	286	2263	.241E-03
52	2636	.767E-02	170	2468	.183E-02	288	2263	.241E-03
54	2640	.790E-02	172	2468	.183E-02	332	2263	.241E-03
56	2638	.779E-02	174	2461	.172E-02	334	2263	.241E-03
58	2636	.767E-02	176	2461	.172E-02	336	2263	.241E-03
60	2636	.767E-02	178	2461	.172E-02	338	2263	.241E-03
62	2636	.767E-02	180	2461	.172E-02	340	2263	.241E-03
64	2638	.779E-02	182	2454	.161E-02	342	2263	.241E-03
66	2636	.767E-02	184	2454	.161E-02	344	2300	.355E-03
68	2634	.756E-02	186	2437	.138E-02	346	2263	.241E-03
70	2636	.767E-02	188	2437	.138E-02	348	2263	.241E-03
72	2636	.767E-02	190	2437	.138E-02	350	2300	.355E-03
74	2634	.756E-02	192	2428	.126E-02	352	2300	.355E-03
76	2634	.756E-02	194	2428	.126E-02	354	2300	.355E-03
78	2636	.767E-02	196	2428	.126E-02	356	2300	.355E-03
80	2634	.756E-02	198	2418	.115E-02	358	2300	.355E-03
82	2636	.767E-02	200	2418	.115E-02	360	2300	.355E-03
84	2636	.767E-02	202	2418	.115E-02	362	2300	.355E-03
86	2636	.767E-02	204	2407	.104E-02	364	2300	.355E-03
88	2636	.767E-02	206	2407	.104E-02	366	2300	.355E-03
90	2636	.767E-02	208	2407	.104E-02	368	2300	.355E-03
92	2636	.767E-02	210	2395	.924E-03	370	2300	.355E-03
94	2636	.767E-02	212	2381	.810E-03	372	2300	.355E-03
96	2634	.756E-02	214	2381	.810E-03	374	2300	.355E-03
98	2633	.744E-02	216	2381	.810E-03	376	2300	.355E-03
100	2633	.744E-02	218	2381	.810E-03	378	2300	.355E-03
102	2631	.733E-02	220	2366	.696E-03	380	2300	.355E-03
104	2629	.721E-02	222	2366	.696E-03	382	2300	.355E-03
106	2625	.698E-02	224	2366	.696E-03	384	2263	.241E-03
108	2625	.698E-02	226	2366	.696E-03	386	2300	.355E-03
110	2625	.698E-02	228	2366	.696E-03	388	2300	.355E-03
112	2618	.664E-02	230	2366	.696E-03	390	2300	.355E-03
114	2614	.641E-02	232	2348	.582E-03	392	2300	.355E-03
116	2607	.606E-02	234	2348	.582E-03	394	2300	.355E-03
118	2600	.572E-02	236	2348	.582E-03	396	2300	.355E-03

TABLE 1 (CONTINUED)

D=1.2mm λ=0.26μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
398	2300	.355E-03	516	2327	.469E-03	634	2300	.355E-03
400	2300	.355E-03	518	2300	.355E-03	636	2300	.355E-03
402	2300	.355E-03	520	2327	.469E-03	638	2300	.355E-03
404	2327	.469E-03	522	2327	.469E-03	640	2300	.355E-03
406	2327	.469E-03	524	2327	.469E-03	642	2300	.355E-03
408	2300	.355E-03	526	2327	.469E-03	644	2263	.241E-03
410	2327	.469E-03	528	2327	.469E-03	646	2300	.355E-03
412	2327	.469E-03	530	2300	.355E-03	648	2300	.355E-03
414	2327	.469E-03	532	2327	.469E-03	650	2300	.355E-03
416	2327	.469E-03	534	2327	.469E-03	652	2300	.355E-03
418	2300	.355E-03	536	2327	.469E-03	654	2300	.355E-03
420	2300	.355E-03	538	2327	.469E-03	656	2300	.355E-03
422	2300	.355E-03	540	2327	.469E-03	658	2300	.355E-03
424	2300	.355E-03	542	2327	.469E-03	660	2300	.355E-03
426	2300	.355E-03	544	2327	.469E-03	662	2300	.355E-03
428	2300	.355E-03	546	2327	.469E-03	664	2300	.355E-03
430	2300	.355E-03	548	2327	.469E-03	666	2300	.355E-03
432	2300	.355E-03	550	2327	.469E-03	668	2300	.355E-03
434	2300	.355E-03	552	2327	.469E-03	670	2300	.355E-03
436	2327	.469E-03	554	2327	.469E-03	672	2300	.355E-03
438	2327	.469E-03	556	2327	.469E-03	674	2300	.355E-03
440	2327	.469E-03	558	2300	.355E-03	676	2300	.355E-03
442	2327	.469E-03	560	2327	.469E-03	678	2300	.355E-03
444	2300	.355E-03	562	2327	.469E-03	680	2300	.355E-03
446	2300	.355E-03	564	2327	.469E-03	682	2300	.355E-03
448	2300	.355E-03	566	2327	.469E-03	684	2327	.469E-03
450	2300	.355E-03	568	2300	.355E-03	686	2327	.469E-03
452	2300	.355E-03	570	2300	.355E-03	688	2327	.469E-03
454	2300	.355E-03	572	2327	.469E-03	690	2300	.355E-03
456	2300	.355E-03	574	2327	.469E-03	692	2300	.355E-03
458	2300	.355E-03	576	2300	.355E-03	694	2300	.355E-03
460	2300	.355E-03	578	2300	.355E-03	696	2300	.355E-03
462	2300	.355E-03	580	2300	.355E-03	698	2327	.469E-03
464	2300	.355E-03	582	2300	.355E-03	700	2300	.355E-03
466	2300	.355E-03	584	2300	.355E-03	702	2300	.355E-03
468	2300	.355E-03	586	2300	.355E-03	704	2300	.355E-03
470	2300	.355E-03	588	2300	.355E-03	706	2300	.355E-03
472	2300	.355E-03	590	2300	.355E-03	708	2300	.355E-03
474	2300	.355E-03	592	2300	.355E-03	710	2300	.355E-03
476	2263	.241E-03	594	2300	.355E-03	712	2300	.355E-03
478	2300	.355E-03	596	2300	.355E-03	714	2300	.355E-03
480	2300	.355E-03	598	2300	.355E-03	716	2300	.355E-03
482	2300	.355E-03	600	2300	.355E-03	718	2300	.355E-03
484	2300	.355E-03	602	2300	.355E-03	720	2300	.355E-03
486	2300	.355E-03	604	2300	.355E-03	722	2300	.355E-03
488	2300	.355E-03	606	2300	.355E-03	724	2300	.355E-03
490	2300	.355E-03	608	2300	.355E-03	726	2300	.355E-03
492	2300	.355E-03	610	2300	.355E-03	728	2300	.355E-03
494	2300	.355E-03	612	2327	.469E-03	730	2300	.355E-03
496	2300	.355E-03	614	2327	.469E-03	732	2300	.355E-03
498	2327	.469E-03	616	2327	.469E-03	734	2263	.241E-03
500	2327	.469E-03	618	2327	.469E-03	736	2300	.355E-03
502	2327	.469E-03	620	2327	.469E-03	738	2263	.241E-03
504	2327	.469E-03	622	2300	.355E-03	740	2263	.241E-03
506	2327	.469E-03	624	2300	.355E-03	742	2300	.355E-03
508	2327	.469E-03	626	2300	.355E-03	744	2263	.241E-03
510	2327	.469E-03	628	2327	.469E-03			
512	2327	.469E-03	630	2327	.469E-03			
514	2327	.469E-03	632	2300	.355E-03			

TABLE

D=1.2mm l=0.28um

t	T	B	t	T	B	t	T	B
2	2632	.230E-01	88	2564	.137E-01	174	2358	.237E-02
4	2632	.230E-01	90	2557	.130E-01	176	2358	.237E-02
6	2632	.230E-01	92	2550	.123E-01	178	2358	.237E-02
8	2632	.230E-01	94	2544	.117E-01	180	2350	.221E-02
10	2632	.230E-01	96	2538	.112E-01	182	2342	.206E-02
12	2632	.230E-01	98	2532	.106E-01	184	2342	.206E-02
14	2632	.230E-01	100	2525	.101E-01	186	2342	.206E-02
16	2632	.230E-01	102	2516	.937E-02	188	2334	.190E-02
18	2632	.230E-01	104	2512	.902E-02	190	2325	.174E-02
20	2632	.230E-01	106	2502	.832E-02	192	2334	.190E-02
22	2632	.230E-01	108	2497	.798E-02	194	2325	.174E-02
24	2632	.230E-01	110	2491	.763E-02	196	2325	.174E-02
26	2632	.230E-01	112	2489	.746E-02	198	2325	.174E-02
28	2632	.230E-01	114	2483	.712E-02	200	2315	.159E-02
30	2632	.230E-01	116	2477	.678E-02	202	2305	.143E-02
32	2632	.230E-01	118	2471	.644E-02	204	2305	.143E-02
34	2632	.230E-01	120	2465	.611E-02	206	2305	.143E-02
36	2632	.230E-01	122	2461	.594E-02	208	2305	.143E-02
38	2632	.230E-01	124	2455	.561E-02	210	2293	.128E-02
40	2632	.230E-01	126	2451	.544E-02	212	2293	.128E-02
42	2632	.230E-01	128	2448	.527E-02	214	2293	.128E-02
44	2632	.230E-01	130	2444	.511E-02	216	2293	.128E-02
46	2632	.230E-01	132	2436	.478E-02	218	2293	.128E-02
48	2632	.230E-01	134	2432	.462E-02	220	2293	.128E-02
50	2632	.230E-01	136	2428	.445E-02	222	2280	.113E-02
52	2632	.230E-01	138	2428	.445E-02	224	2293	.128E-02
54	2632	.230E-01	140	2424	.429E-02	226	2280	.113E-02
56	2632	.230E-01	142	2419	.413E-02	228	2280	.113E-02
58	2632	.230E-01	144	2415	.396E-02	230	2280	.113E-02
60	2632	.230E-01	146	2405	.364E-02	232	2265	.972E-03
62	2632	.230E-01	148	2400	.348E-02	234	2280	.113E-02
64	2632	.230E-01	150	2395	.332E-02	236	2265	.972E-03
66	2632	.230E-01	152	2389	.316E-02	238	2265	.972E-03
68	2631	.228E-01	154	2389	.316E-02	240	2265	.972E-03
70	2624	.216E-01	156	2384	.300E-02	242	2248	.819E-03
72	2617	.206E-01	158	2384	.300E-02	244	2265	.972E-03
74	2610	.196E-01	160	2378	.284E-02	246	2248	.819E-03
76	2605	.188E-01	162	2378	.284E-02	248	2248	.819E-03
78	2598	.178E-01	164	2371	.268E-02	250	2228	.666E-03
80	2589	.166E-01	166	2371	.268E-02	252	2228	.666E-03
82	2583	.158E-01	168	2365	.253E-02	254	2248	.819E-03
84	2576	.151E-01	170	2365	.253E-02	256	2228	.666E-03
86	2570	.143E-01	172	2365	.253E-02	258	2248	.819E-03

TABLE (CONTINUED)

D=1.2mm l=0.28um

t	T	B	t	T	B	t	T	B
260	2248	.819E-03	346	2315	.159E-02	432	2315	.159E-02
262	2228	.666E-03	348	2305	.143E-02	434	2315	.159E-02
264	2228	.666E-03	350	2315	.159E-02	436	2315	.159E-02
266	2228	.666E-03	352	2305	.143E-02	438	2315	.159E-02
268	2228	.666E-03	354	2305	.143E-02	440	2315	.159E-02
270	2228	.666E-03	356	2305	.143E-02	442	2315	.159E-02
272	2228	.666E-03	358	2315	.159E-02	444	2315	.159E-02
274	2228	.666E-03	360	2315	.159E-02	446	2315	.159E-02
276	2228	.666E-03	362	2305	.143E-02	448	2325	.174E-02
278	2248	.819E-03	364	2305	.143E-02	450	2315	.159E-02
280	2265	.972E-03	366	2305	.143E-02	452	2305	.143E-02
282	2265	.972E-03	368	2315	.159E-02	454	2315	.159E-02
284	2265	.972E-03	370	2305	.143E-02	456	2315	.159E-02
286	2280	.113E-02	372	2305	.143E-02	458	2315	.159E-02
288	2280	.113E-02	374	2315	.159E-02	460	2305	.143E-02
290	2280	.113E-02	376	2315	.159E-02	462	2305	.143E-02
292	2293	.128E-02	378	2315	.159E-02	464	2305	.143E-02
294	2293	.128E-02	380	2315	.159E-02	466	2305	.143E-02
296	2293	.128E-02	382	2305	.143E-02	468	2315	.159E-02
298	2305	.143E-02	384	2305	.143E-02	470	2305	.143E-02
300	2305	.143E-02	386	2315	.159E-02	472	2305	.143E-02
302	2305	.143E-02	388	2315	.159E-02	474	2305	.143E-02
304	2305	.143E-02	390	2315	.159E-02	476	2305	.143E-02
306	2305	.143E-02	392	2315	.159E-02	478	2293	.128E-02
308	2305	.143E-02	394	2305	.143E-02	480	2305	.143E-02
310	2305	.143E-02	396	2315	.159E-02	482	2305	.143E-02
312	2305	.143E-02	398	2315	.159E-02	484	2293	.128E-02
314	2305	.143E-02	400	2315	.159E-02	486	2293	.128E-02
316	2305	.143E-02	402	2315	.159E-02	488	2305	.143E-02
318	2305	.143E-02	404	2305	.143E-02	490	2293	.128E-02
320	2305	.143E-02	406	2305	.143E-02	492	2293	.128E-02
322	2305	.143E-02	408	2315	.159E-02	494	2293	.128E-02
324	2315	.159E-02	410	2315	.159E-02	496	2280	.113E-02
326	2315	.159E-02	412	2315	.159E-02	498	2293	.128E-02
328	2305	.143E-02	414	2315	.159E-02	500	2293	.128E-02
330	2315	.159E-02	416	2315	.159E-02	502	2293	.128E-02
332	2315	.159E-02	418	2315	.159E-02	504	2293	.128E-02
334	2315	.159E-02	420	2315	.159E-02	506	2293	.128E-02
336	2315	.159E-02	422	2315	.159E-02	508	2305	.143E-02
338	2315	.159E-02	424	2315	.159E-02	510	2293	.128E-02
340	2315	.159E-02	426	2325	.174E-02	512	2293	.128E-02
342	2315	.159E-02	428	2325	.174E-02	514	2293	.128E-02
344	2315	.159E-02	430	2325	.174E-02	516	2293	.128E-02

TABLE (CONTINUED)

D=1.2mm l=0.28um

t	T	B	t	T	B	t	T	B
518	2305	.143E-02	604	2228	.666E-03	690	2122	.211E-03
520	2305	.143E-02	606	2228	.666E-03	692	2122	.211E-03
522	2305	.143E-02	608	2228	.666E-03	694	2122	.211E-03
524	2305	.143E-02	610	2228	.666E-03	696	2122	.211E-03
526	2305	.143E-02	612	2203	.514E-03	698	2122	.211E-03
528	2305	.143E-02	614	2203	.514E-03	700	2122	.211E-03
530	2293	.128E-02	616	2203	.514E-03	702	2122	.211E-03
532	2293	.128E-02	618	2203	.514E-03	704	2122	.211E-03
534	2293	.128E-02	620	2203	.514E-03	706	2122	.211E-03
536	2293	.128E-02	622	2203	.514E-03	708	2122	.211E-03
538	2293	.128E-02	624	2171	.362E-03	710	2122	.211E-03
540	2293	.128E-02	626	2171	.362E-03	712	2122	.211E-03
542	2293	.128E-02	628	2203	.514E-03	714	2122	.211E-03
544	2293	.128E-02	630	2203	.514E-03	716	2122	.211E-03
546	2293	.128E-02	632	2171	.362E-03	718	2122	.211E-03
548	2293	.128E-02	634	2171	.362E-03	720	2122	.211E-03
550	2280	.113E-02	636	2171	.362E-03	722	2122	.211E-03
552	2280	.113E-02	638	2171	.362E-03	724	2122	.211E-03
554	2280	.113E-02	640	2171	.362E-03	726	2122	.211E-03
556	2280	.113E-02	642	2203	.514E-03	728	2122	.211E-03
558	2280	.113E-02	644	2171	.362E-03	730	2122	.211E-03
560	2280	.113E-02	646	2171	.362E-03	732	2122	.211E-03
562	2280	.113E-02	648	2171	.362E-03	734	2122	.211E-03
564	2280	.113E-02	650	2171	.362E-03	736	2122	.211E-03
566	2280	.113E-02	652	2171	.362E-03	738	2122	.211E-03
568	2280	.113E-02	654	2122	.211E-03	740	2122	.211E-03
570	2280	.113E-02	656	2122	.211E-03	742	2122	.211E-03
572	2265	.972E-03	658	2171	.362E-03	744	2122	.211E-03
574	2265	.972E-03	660	2122	.211E-03	746	2122	.211E-03
576	2265	.972E-03	662	2171	.362E-03	748	2122	.211E-03
578	2265	.972E-03	664	2171	.362E-03	750	2122	.211E-03
580	2265	.972E-03	666	2122	.211E-03	752	2122	.211E-03
582	2265	.972E-03	668	2171	.362E-03	754	2122	.211E-03
584	2265	.972E-03	670	2171	.362E-03	756	2122	.211E-03
586	2248	.819E-03	672	2171	.362E-03	758	2122	.211E-03
588	2248	.819E-03	674	2122	.211E-03	760	2122	.211E-03
590	2265	.972E-03	676	2122	.211E-03	762	2122	.211E-03
592	2248	.819E-03	678	2122	.211E-03	764	2122	.211E-03
594	2248	.819E-03	680	2122	.211E-03	766	2122	.211E-03
596	2248	.819E-03	682	2171	.362E-03	768	2122	.211E-03
598	2228	.666E-03	684	2122	.211E-03	770	2122	.211E-03
600	2228	.666E-03	686	2122	.211E-03			
602	2228	.666E-03	688	2122	.211E-03			

TABLE 3

D=1.2mm λ=0.3μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
2	2542	.314E-01	114	2453	.158E-01	226	2240	.246E-02
4	2542	.314E-01	116	2447	.151E-01	228	2240	.246E-02
6	2542	.314E-01	118	2442	.145E-01	230	2240	.246E-02
8	2542	.314E-01	120	2436	.138E-01	232	2240	.246E-02
10	2544	.317E-01	122	2430	.132E-01	234	2240	.246E-02
12	2542	.314E-01	124	2424	.125E-01	236	2240	.246E-02
14	2542	.314E-01	126	2424	.125E-01	238	2240	.246E-02
16	2544	.317E-01	128	2417	.119E-01	240	2240	.246E-02
18	2542	.314E-01	130	2414	.115E-01	242	2224	.212E-02
20	2542	.314E-01	132	2410	.112E-01	244	2240	.246E-02
22	2542	.314E-01	134	2407	.109E-01	246	2224	.212E-02
24	2542	.314E-01	136	2403	.105E-01	248	2224	.212E-02
26	2541	.311E-01	138	2395	.987E-02	250	2224	.212E-02
28	2542	.314E-01	140	2391	.954E-02	252	2224	.212E-02
30	2541	.311E-01	142	2387	.920E-02	254	2224	.212E-02
32	2541	.311E-01	144	2383	.887E-02	256	2224	.212E-02
34	2542	.314E-01	146	2378	.854E-02	258	2206	.178E-02
36	2541	.311E-01	148	2368	.787E-02	260	2206	.178E-02
38	2541	.311E-01	150	2368	.787E-02	262	2206	.178E-02
40	2541	.311E-01	152	2363	.753E-02	264	2206	.178E-02
42	2541	.311E-01	154	2358	.720E-02	266	2206	.178E-02
44	2542	.314E-01	156	2353	.686E-02	268	2206	.178E-02
46	2542	.314E-01	158	2353	.686E-02	270	2224	.212E-02
48	2542	.314E-01	160	2347	.653E-02	272	2240	.246E-02
50	2542	.314E-01	162	2341	.619E-02	274	2240	.246E-02
52	2542	.314E-01	164	2341	.619E-02	276	2254	.280E-02
54	2542	.314E-01	166	2341	.619E-02	278	2254	.280E-02
56	2542	.314E-01	168	2334	.585E-02	280	2266	.314E-02
58	2541	.311E-01	170	2334	.585E-02	282	2266	.314E-02
60	2541	.311E-01	172	2328	.552E-02	284	2277	.348E-02
62	2541	.311E-01	174	2321	.518E-02	286	2277	.348E-02
64	2541	.311E-01	176	2328	.552E-02	288	2277	.348E-02
66	2541	.311E-01	178	2321	.518E-02	290	2277	.348E-02
68	2541	.311E-01	180	2321	.518E-02	292	2277	.348E-02
70	2541	.311E-01	182	2313	.484E-02	294	2277	.348E-02
72	2540	.308E-01	184	2313	.484E-02	296	2277	.348E-02
74	2540	.308E-01	186	2305	.450E-02	298	2287	.382E-02
76	2537	.302E-01	188	2305	.450E-02	300	2287	.382E-02
78	2536	.299E-01	190	2296	.416E-02	302	2287	.382E-02
80	2534	.296E-01	192	2296	.416E-02	304	2287	.382E-02
82	2530	.287E-01	194	2287	.382E-02	306	2287	.382E-02
84	2526	.278E-01	196	2287	.382E-02	308	2287	.382E-02
86	2521	.268E-01	198	2287	.382E-02	310	2287	.382E-02
88	2517	.259E-01	200	2287	.382E-02	312	2296	.416E-02
90	2513	.253E-01	202	2277	.348E-02	314	2287	.382E-02
92	2508	.244E-01	204	2277	.348E-02	316	2287	.382E-02
94	2503	.234E-01	206	2277	.348E-02	318	2296	.416E-02
96	2498	.225E-01	208	2266	.314E-02	320	2287	.382E-02
98	2494	.218E-01	210	2266	.314E-02	322	2287	.382E-02
100	2490	.212E-01	212	2266	.314E-02	324	2296	.416E-02
102	2482	.199E-01	214	2266	.314E-02	326	2296	.416E-02
104	2478	.193E-01	216	2266	.314E-02	328	2296	.416E-02
106	2474	.187E-01	218	2254	.280E-02	330	2287	.382E-02
108	2467	.177E-01	220	2254	.280E-02	332	2296	.416E-02
110	2463	.171E-01	222	2254	.280E-02	334	2296	.416E-02
112	2458	.164E-01	224	2254	.280E-02	336	2296	.416E-02

TABLE 3 (CONTINUED)

D=1.2mm λ=0.3μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
338	2296	.416E-02	450	2287	.382E-02	562	2224	.212E-02
340	2296	.416E-02	452	2287	.382E-02	564	2206	.178E-02
342	2296	.416E-02	454	2287	.382E-02	566	2206	.178E-02
344	2287	.382E-02	456	2287	.382E-02	568	2206	.178E-02
346	2296	.416E-02	458	2287	.382E-02	570	2206	.178E-02
348	2296	.416E-02	460	2287	.382E-02	572	2206	.178E-02
350	2287	.382E-02	462	2296	.416E-02	574	2206	.178E-02
352	2296	.416E-02	464	2287	.382E-02	576	2206	.178E-02
354	2296	.416E-02	466	2287	.382E-02	578	2206	.178E-02
356	2296	.416E-02	468	2287	.382E-02	580	2206	.178E-02
358	2296	.416E-02	470	2287	.382E-02	582	2206	.178E-02
360	2296	.416E-02	472	2287	.382E-02	584	2185	.144E-02
362	2296	.416E-02	474	2287	.382E-02	586	2185	.144E-02
364	2287	.382E-02	476	2287	.382E-02	588	2185	.144E-02
366	2296	.416E-02	478	2287	.382E-02	590	2185	.144E-02
368	2296	.416E-02	480	2287	.382E-02	592	2185	.144E-02
370	2296	.416E-02	482	2277	.348E-02	594	2185	.144E-02
372	2296	.416E-02	484	2277	.348E-02	596	2185	.144E-02
374	2287	.382E-02	486	2277	.348E-02	598	2185	.144E-02
376	2287	.382E-02	488	2277	.348E-02	600	2185	.144E-02
378	2296	.416E-02	490	2277	.348E-02	602	2185	.144E-02
380	2296	.416E-02	492	2277	.348E-02	604	2185	.144E-02
382	2296	.416E-02	494	2277	.348E-02	606	2185	.144E-02
384	2287	.382E-02	496	2266	.314E-02	608	2185	.144E-02
386	2287	.382E-02	498	2266	.314E-02	610	2185	.144E-02
388	2296	.416E-02	500	2266	.314E-02	612	2185	.144E-02
390	2287	.382E-02	502	2266	.314E-02	614	2185	.144E-02
392	2287	.382E-02	504	2266	.314E-02	616	2158	.109E-02
394	2287	.382E-02	506	2254	.280E-02	618	2158	.109E-02
396	2287	.382E-02	508	2266	.314E-02	620	2158	.109E-02
398	2296	.416E-02	510	2254	.280E-02	622	2158	.109E-02
400	2296	.416E-02	512	2254	.280E-02	624	2158	.109E-02
402	2287	.382E-02	514	2254	.280E-02	626	2158	.109E-02
404	2287	.382E-02	516	2254	.280E-02	628	2158	.109E-02
406	2296	.416E-02	518	2240	.246E-02	630	2158	.109E-02
408	2296	.416E-02	520	2254	.280E-02	632	2158	.109E-02
410	2296	.416E-02	522	2240	.246E-02	634	2158	.109E-02
412	2296	.416E-02	524	2240	.246E-02	636	2158	.109E-02
414	2296	.416E-02	526	2240	.246E-02	638	2122	.749E-03
416	2296	.416E-02	528	2240	.246E-02	640	2122	.749E-03
418	2296	.416E-02	530	2240	.246E-02	642	2122	.749E-03
420	2296	.416E-02	532	2240	.246E-02	644	2122	.749E-03
422	2296	.416E-02	534	2240	.246E-02	646	2122	.749E-03
424	2296	.416E-02	536	2224	.212E-02	648	2122	.749E-03
426	2296	.416E-02	538	2240	.246E-02	650	2122	.749E-03
428	2296	.416E-02	540	2224	.212E-02	652	2122	.749E-03
430	2296	.416E-02	542	2224	.212E-02	654	2122	.749E-03
432	2296	.416E-02	544	2224	.212E-02	656	2122	.749E-03
434	2296	.416E-02	546	2224	.212E-02	658	2122	.749E-03
436	2287	.382E-02	548	2224	.212E-02	660	2122	.749E-03
438	2287	.382E-02	550	2206	.178E-02	662	2122	.749E-03
440	2287	.382E-02	552	2206	.178E-02	664	2122	.749E-03
442	2287	.382E-02	554	2224	.212E-02	666	2066	.405E-03
444	2287	.382E-02	556	2224	.212E-02	668	2066	.405E-03
446	2287	.382E-02	558	2206	.178E-02	670	2066	.405E-03
448	2287	.382E-02	560	2206	.178E-02			

TABLE 4

D=1.2mm λ=0.32μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
2	2554	.805E-01	92	2554	.805E-01	182	2417	.295E-01
4	2554	.805E-01	94	2553	.797E-01	184	2413	.287E-01
6	2554	.805E-01	96	2553	.797E-01	186	2409	.279E-01
8	2553	.797E-01	98	2553	.797E-01	188	2401	.262E-01
10	2554	.805E-01	100	2553	.797E-01	190	2401	.262E-01
12	2554	.805E-01	102	2553	.797E-01	192	2397	.254E-01
14	2553	.797E-01	104	2554	.805E-01	194	2389	.237E-01
16	2554	.805E-01	106	2554	.805E-01	196	2384	.229E-01
18	2554	.805E-01	108	2553	.797E-01	198	2380	.221E-01
20	2554	.805E-01	110	2554	.805E-01	200	2380	.221E-01
22	2556	.812E-01	112	2553	.797E-01	202	2375	.212E-01
24	2556	.812E-01	114	2552	.789E-01	204	2370	.204E-01
26	2554	.805E-01	116	2552	.789E-01	206	2364	.196E-01
28	2556	.812E-01	118	2552	.789E-01	208	2359	.187E-01
30	2554	.805E-01	120	2552	.789E-01	210	2353	.179E-01
32	2554	.805E-01	122	2550	.782E-01	212	2348	.171E-01
34	2552	.789E-01	124	2549	.774E-01	214	2341	.162E-01
36	2552	.789E-01	126	2547	.766E-01	216	2341	.162E-01
38	2553	.797E-01	128	2543	.743E-01	218	2335	.154E-01
40	2554	.805E-01	130	2537	.712E-01	220	2335	.154E-01
42	2553	.797E-01	132	2532	.689E-01	222	2328	.145E-01
44	2553	.797E-01	134	2527	.665E-01	224	2328	.145E-01
46	2553	.797E-01	136	2524	.650E-01	226	2328	.145E-01
48	2553	.797E-01	138	2518	.626E-01	228	2321	.137E-01
50	2554	.805E-01	140	2513	.602E-01	230	2321	.137E-01
52	2554	.805E-01	142	2509	.586E-01	232	2313	.129E-01
54	2553	.797E-01	144	2503	.563E-01	234	2313	.129E-01
56	2553	.797E-01	146	2499	.547E-01	236	2305	.120E-01
58	2554	.805E-01	148	2495	.531E-01	238	2305	.120E-01
60	2554	.805E-01	150	2491	.515E-01	240	2305	.120E-01
62	2554	.805E-01	152	2487	.499E-01	242	2305	.120E-01
64	2553	.797E-01	154	2482	.483E-01	244	2297	.112E-01
66	2554	.805E-01	156	2475	.458E-01	246	2297	.112E-01
68	2553	.797E-01	158	2473	.450E-01	248	2288	.103E-01
70	2554	.805E-01	160	2465	.426E-01	250	2288	.103E-01
72	2554	.805E-01	162	2463	.418E-01	252	2288	.103E-01
74	2553	.797E-01	164	2457	.402E-01	254	2278	.949E-02
76	2553	.797E-01	166	2455	.394E-01	256	2278	.949E-02
78	2554	.805E-01	168	2449	.377E-01	258	2278	.949E-02
80	2554	.805E-01	170	2443	.361E-01	260	2278	.949E-02
82	2556	.812E-01	172	2440	.353E-01	262	2267	.864E-02
84	2554	.805E-01	174	2434	.336E-01	264	2267	.864E-02
86	2554	.805E-01	176	2431	.328E-01	266	2255	.779E-02
88	2554	.805E-01	178	2427	.320E-01	268	2255	.779E-02
90	2554	.805E-01	180	2420	.304E-01	270	2255	.779E-02

TABLE 4 (CONTINUED)

D=1.2mm λ=0.32μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
272	2255	.779E-02	362	2228	.609E-02	452	2242	.694E-02
274	2255	.779E-02	364	2228	.609E-02	454	2242	.694E-02
276	2242	.694E-02	366	2228	.609E-02	456	2228	.609E-02
278	2242	.694E-02	368	2228	.609E-02	458	2228	.609E-02
280	2242	.694E-02	370	2228	.609E-02	460	2242	.694E-02
282	2242	.694E-02	372	2228	.609E-02	462	2242	.694E-02
284	2228	.609E-02	374	2242	.694E-02	464	2242	.694E-02
286	2228	.609E-02	376	2228	.609E-02	466	2242	.694E-02
288	2228	.609E-02	378	2228	.609E-02	468	2242	.694E-02
290	2228	.609E-02	380	2242	.694E-02	470	2242	.694E-02
292	2228	.609E-02	382	2228	.609E-02	472	2242	.694E-02
294	2228	.609E-02	384	2228	.609E-02	474	2242	.694E-02
296	2211	.524E-02	386	2228	.609E-02	476	2228	.609E-02
298	2211	.524E-02	388	2228	.609E-02	478	2242	.694E-02
300	2211	.524E-02	390	2228	.609E-02	480	2242	.694E-02
302	2211	.524E-02	392	2242	.694E-02	482	2242	.694E-02
304	2211	.524E-02	394	2242	.694E-02	484	2242	.694E-02
306	2211	.524E-02	396	2242	.694E-02	486	2242	.694E-02
308	2211	.524E-02	398	2242	.694E-02	488	2242	.694E-02
310	2192	.439E-02	400	2242	.694E-02	490	2242	.694E-02
312	2192	.439E-02	402	2242	.694E-02	492	2242	.694E-02
314	2192	.439E-02	404	2242	.694E-02	494	2242	.694E-02
316	2192	.439E-02	406	2242	.694E-02	496	2242	.694E-02
318	2169	.354E-02	408	2242	.694E-02	498	2242	.694E-02
320	2192	.439E-02	410	2242	.694E-02	500	2242	.694E-02
322	2169	.354E-02	412	2242	.694E-02	502	2242	.694E-02
324	2169	.354E-02	414	2242	.694E-02	504	2242	.694E-02
326	2169	.354E-02	416	2242	.694E-02	506	2242	.694E-02
328	2169	.354E-02	418	2242	.694E-02	508	2242	.694E-02
330	2169	.354E-02	420	2242	.694E-02	510	2242	.694E-02
332	2169	.354E-02	422	2242	.694E-02	512	2242	.694E-02
334	2169	.354E-02	424	2242	.694E-02	514	2242	.694E-02
336	2141	.269E-02	426	2242	.694E-02	516	2242	.694E-02
338	2141	.269E-02	428	2242	.694E-02	518	2242	.694E-02
340	2169	.354E-02	430	2242	.694E-02	520	2242	.694E-02
342	2169	.354E-02	432	2242	.694E-02	522	2242	.694E-02
344	2169	.354E-02	434	2242	.694E-02	524	2242	.694E-02
346	2169	.354E-02	436	2242	.694E-02	526	2242	.694E-02
348	2169	.354E-02	438	2242	.694E-02	528	2242	.694E-02
350	2192	.439E-02	440	2242	.694E-02	530	2255	.779E-02
352	2192	.439E-02	442	2242	.694E-02	532	2255	.779E-02
354	2211	.524E-02	444	2242	.694E-02	534	2242	.694E-02
356	2211	.524E-02	446	2242	.694E-02	536	2242	.694E-02
358	2211	.524E-02	448	2242	.694E-02	538	2242	.694E-02
360	2228	.609E-02	450	2242	.694E-02	540	2242	.694E-02

TABLE 4 (CONTINUED)

D=1.2mm λ=0.32μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
542	2242	.694E-02	632	2242	.694E-02	722	2192	.439E-02
544	2242	.694E-02	634	2242	.694E-02	724	2192	.439E-02
546	2242	.694E-02	636	2242	.694E-02	726	2192	.439E-02
548	2242	.694E-02	638	2242	.694E-02	728	2192	.439E-02
550	2242	.694E-02	640	2242	.694E-02	730	2192	.439E-02
552	2242	.694E-02	642	2242	.694E-02	732	2192	.439E-02
554	2242	.694E-02	644	2242	.694E-02	734	2192	.439E-02
556	2242	.694E-02	646	2242	.694E-02	736	2192	.439E-02
558	2242	.694E-02	648	2242	.694E-02	738	2169	.354E-02
560	2255	.779E-02	650	2242	.694E-02	740	2169	.354E-02
562	2242	.694E-02	652	2242	.694E-02	742	2169	.354E-02
564	2242	.694E-02	654	2242	.694E-02	744	2169	.354E-02
566	2242	.694E-02	656	2242	.694E-02	746	2169	.354E-02
568	2242	.694E-02	658	2242	.694E-02	748	2169	.354E-02
570	2242	.694E-02	660	2228	.609E-02	750	2169	.354E-02
572	2242	.694E-02	662	2242	.694E-02	752	2169	.354E-02
574	2242	.694E-02	664	2242	.694E-02	754	2169	.354E-02
576	2242	.694E-02	666	2242	.694E-02	756	2169	.354E-02
578	2242	.694E-02	668	2242	.694E-02	758	2169	.354E-02
580	2242	.694E-02	670	2242	.694E-02	760	2141	.269E-02
582	2242	.694E-02	672	2242	.694E-02	762	2141	.269E-02
584	2242	.694E-02	674	2242	.694E-02	764	2141	.269E-02
586	2242	.694E-02	676	2242	.694E-02	766	2141	.269E-02
588	2242	.694E-02	678	2228	.609E-02	768	2141	.269E-02
590	2242	.694E-02	680	2228	.609E-02	770	2141	.269E-02
592	2242	.694E-02	682	2228	.609E-02	772	2141	.269E-02
594	2242	.694E-02	684	2228	.609E-02	774	2141	.269E-02
596	2242	.694E-02	686	2228	.609E-02	776	2141	.269E-02
598	2242	.694E-02	688	2228	.609E-02	778	2141	.269E-02
600	2242	.694E-02	690	2228	.609E-02	780	2103	.183E-02
602	2242	.694E-02	692	2228	.609E-02	782	2103	.183E-02
604	2242	.694E-02	694	2211	.524E-02	784	2103	.183E-02
606	2228	.609E-02	696	2211	.524E-02	786	2103	.183E-02
608	2242	.694E-02	698	2228	.609E-02	788	2103	.183E-02
610	2242	.694E-02	700	2211	.524E-02	790	2103	.183E-02
612	2242	.694E-02	702	2228	.609E-02	792	2103	.183E-02
614	2242	.694E-02	704	2211	.524E-02	794	2103	.183E-02
616	2242	.694E-02	706	2211	.524E-02	796	2103	.183E-02
618	2242	.694E-02	708	2211	.524E-02	798	2103	.183E-02
620	2242	.694E-02	710	2211	.524E-02	800	2043	.980E-03
622	2242	.694E-02	712	2211	.524E-02	802	2043	.980E-03
624	2242	.694E-02	714	2211	.524E-02	804	2043	.980E-03
626	2242	.694E-02	716	2211	.524E-02	806	2043	.980E-03
628	2242	.694E-02	718	2192	.439E-02	808	2043	.980E-03
630	2242	.694E-02	720	2192	.439E-02			

TABLE 5

D=1.2mm λ=0.35μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
2	2547	.222E+00	112	2506	.170E+00	222	2266	.299E-01
4	2547	.222E+00	114	2493	.157E+00	224	2266	.299E-01
6	2547	.222E+00	116	2487	.150E+00	226	2285	.350E-01
8	2544	.218E+00	118	2481	.144E+00	228	2266	.299E-01
10	2547	.222E+00	120	2468	.132E+00	230	2266	.299E-01
12	2547	.222E+00	122	2462	.127E+00	232	2266	.299E-01
14	2547	.222E+00	124	2456	.122E+00	234	2266	.299E-01
16	2547	.222E+00	126	2449	.117E+00	236	2246	.255E-01
18	2547	.222E+00	128	2443	.112E+00	238	2246	.255E-01
20	2547	.222E+00	130	2430	.102E+00	240	2246	.255E-01
22	2547	.222E+00	132	2424	.979E-01	242	2246	.255E-01
24	2547	.222E+00	134	2418	.937E-01	244	2246	.255E-01
26	2544	.218E+00	136	2412	.896E-01	246	2246	.255E-01
28	2547	.222E+00	138	2405	.857E-01	248	2246	.255E-01
30	2547	.222E+00	140	2405	.857E-01	250	2246	.255E-01
32	2547	.222E+00	142	2391	.774E-01	252	2226	.217E-01
34	2547	.222E+00	144	2391	.774E-01	254	2226	.217E-01
36	2544	.218E+00	146	2384	.735E-01	256	2226	.217E-01
38	2547	.222E+00	148	2377	.698E-01	258	2226	.217E-01
40	2547	.222E+00	150	2377	.698E-01	260	2226	.217E-01
42	2547	.222E+00	152	2370	.662E-01	262	2226	.217E-01
44	2547	.222E+00	154	2370	.662E-01	264	2226	.217E-01
46	2547	.222E+00	156	2362	.629E-01	266	2226	.217E-01
48	2544	.218E+00	158	2362	.629E-01	268	2226	.217E-01
50	2544	.218E+00	160	2355	.596E-01	270	2226	.217E-01
52	2547	.222E+00	162	2355	.596E-01	272	2226	.217E-01
54	2547	.222E+00	164	2355	.596E-01	274	2226	.217E-01
56	2544	.218E+00	166	2348	.565E-01	276	2226	.217E-01
58	2547	.222E+00	168	2348	.565E-01	278	2226	.217E-01
60	2547	.222E+00	170	2341	.536E-01	280	2226	.217E-01
62	2544	.218E+00	172	2341	.536E-01	282	2226	.217E-01
64	2547	.222E+00	174	2334	.508E-01	284	2206	.184E-01
66	2547	.222E+00	176	2334	.508E-01	286	2226	.217E-01
68	2547	.222E+00	178	2334	.508E-01	288	2226	.217E-01
70	2544	.218E+00	180	2334	.508E-01	290	2206	.184E-01
72	2547	.222E+00	182	2327	.481E-01	292	2206	.184E-01
74	2547	.222E+00	184	2327	.481E-01	294	2206	.184E-01
76	2544	.218E+00	186	2327	.481E-01	296	2206	.184E-01
78	2547	.222E+00	188	2319	.455E-01	298	2226	.217E-01
80	2544	.218E+00	190	2319	.455E-01	300	2226	.217E-01
82	2544	.218E+00	192	2319	.455E-01	302	2226	.217E-01
84	2547	.222E+00	194	2312	.431E-01	304	2246	.255E-01
86	2547	.222E+00	196	2312	.431E-01	306	2246	.255E-01
88	2544	.218E+00	198	2312	.431E-01	308	2246	.255E-01
90	2544	.218E+00	200	2312	.431E-01	310	2266	.299E-01
92	2544	.218E+00	202	2305	.408E-01	312	2246	.255E-01
94	2542	.214E+00	204	2305	.408E-01	314	2266	.299E-01
96	2539	.211E+00	206	2305	.408E-01	316	2266	.299E-01
98	2536	.207E+00	208	2305	.408E-01	318	2266	.299E-01
100	2533	.203E+00	210	2285	.350E-01	320	2266	.299E-01
102	2528	.196E+00	212	2285	.350E-01	322	2266	.299E-01
104	2525	.193E+00	214	2285	.350E-01	324	2266	.299E-01
106	2520	.186E+00	216	2285	.350E-01	326	2266	.299E-01
108	2514	.180E+00	218	2285	.350E-01	328	2266	.299E-01
110	2509	.173E+00	220	2285	.350E-01	330	2266	.299E-01

TABLE 5 (CONTINUED)

D=1.2mm λ=0.35μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
332	2266	.299E-01	442	2266	.299E-01	552	2206	.184E-01
334	2266	.299E-01	444	2266	.299E-01	554	2206	.184E-01
336	2266	.299E-01	446	2266	.299E-01	556	2206	.184E-01
338	2266	.299E-01	448	2266	.299E-01	558	2206	.184E-01
340	2266	.299E-01	450	2266	.299E-01	560	2206	.184E-01
342	2266	.299E-01	452	2266	.299E-01	562	2206	.184E-01
344	2266	.299E-01	454	2246	.255E-01	564	2206	.184E-01
346	2266	.299E-01	456	2266	.299E-01	566	2206	.184E-01
348	2285	.350E-01	458	2246	.255E-01	568	2206	.184E-01
350	2266	.299E-01	460	2246	.255E-01	570	2206	.184E-01
352	2266	.299E-01	462	2246	.255E-01	572	2206	.184E-01
354	2266	.299E-01	464	2246	.255E-01	574	2140	.103E-01
356	2266	.299E-01	466	2246	.255E-01	576	2206	.184E-01
358	2266	.299E-01	468	2266	.299E-01	578	2140	.103E-01
360	2266	.299E-01	470	2246	.255E-01	580	2140	.103E-01
362	2266	.299E-01	472	2246	.255E-01	582	2206	.184E-01
364	2266	.299E-01	474	2246	.255E-01	584	2140	.103E-01
366	2266	.299E-01	476	2246	.255E-01	586	2140	.103E-01
368	2266	.299E-01	478	2246	.255E-01	588	2140	.103E-01
370	2266	.299E-01	480	2246	.255E-01	590	2206	.184E-01
372	2266	.299E-01	482	2246	.255E-01	592	2140	.103E-01
374	2266	.299E-01	484	2246	.255E-01	594	2140	.103E-01
376	2266	.299E-01	486	2246	.255E-01	596	2140	.103E-01
378	2266	.299E-01	488	2246	.255E-01	598	2140	.103E-01
380	2266	.299E-01	490	2246	.255E-01	600	2140	.103E-01
382	2266	.299E-01	492	2246	.255E-01	602	2140	.103E-01
384	2246	.255E-01	494	2226	.217E-01	604	2140	.103E-01
386	2266	.299E-01	496	2246	.255E-01	606	2140	.103E-01
388	2266	.299E-01	498	2246	.255E-01	608	2140	.103E-01
390	2266	.299E-01	500	2226	.217E-01	610	2206	.184E-01
392	2266	.299E-01	502	2246	.255E-01	612	2140	.103E-01
394	2266	.299E-01	504	2226	.217E-01	614	2140	.103E-01
396	2266	.299E-01	506	2226	.217E-01	616	2140	.103E-01
398	2266	.299E-01	508	2246	.255E-01	618	2140	.103E-01
400	2266	.299E-01	510	2226	.217E-01	620	2140	.103E-01
402	2266	.299E-01	512	2226	.217E-01	622	2140	.103E-01
404	2266	.299E-01	514	2226	.217E-01	624	2140	.103E-01
406	2266	.299E-01	516	2226	.217E-01	626	2140	.103E-01
408	2285	.350E-01	518	2226	.217E-01	628	2140	.103E-01
410	2266	.299E-01	520	2226	.217E-01	630	2140	.103E-01
412	2266	.299E-01	522	2226	.217E-01	632	2140	.103E-01
414	2266	.299E-01	524	2226	.217E-01	634	2074	.561E-02
416	2266	.299E-01	526	2226	.217E-01	636	2074	.561E-02
418	2266	.299E-01	528	2226	.217E-01	638	2140	.103E-01
420	2266	.299E-01	530	2226	.217E-01	640	2074	.561E-02
422	2266	.299E-01	532	2226	.217E-01	642	2140	.103E-01
424	2266	.299E-01	534	2206	.184E-01	644	2140	.103E-01
426	2266	.299E-01	536	2226	.217E-01	646	2074	.561E-02
428	2266	.299E-01	538	2206	.184E-01	648	2074	.561E-02
430	2266	.299E-01	540	2206	.184E-01	650	2140	.103E-01
432	2266	.299E-01	542	2226	.217E-01	652	2074	.561E-02
434	2266	.299E-01	544	2206	.184E-01	654	2074	.561E-02
436	2266	.299E-01	546	2206	.184E-01	656	2074	.561E-02
438	2266	.299E-01	548	2206	.184E-01	658	2074	.561E-02
440	2266	.299E-01	550	2206	.184E-01			

TABLE 6

D=1.2mm λ=0.4μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
2	2618	.126E+01	116	2440	.460E+00	230	2258	.140E+00
4	2616	.124E+01	118	2433	.442E+00	232	2258	.140E+00
6	2618	.126E+01	120	2430	.432E+00	234	2241	.124E+00
8	2621	.127E+01	122	2426	.424E+00	236	2241	.124E+00
10	2621	.127E+01	124	2423	.415E+00	238	2241	.124E+00
12	2618	.126E+01	126	2419	.406E+00	240	2241	.124E+00
14	2618	.126E+01	128	2416	.398E+00	242	2224	.110E+00
16	2618	.126E+01	130	2413	.389E+00	244	2241	.124E+00
18	2618	.126E+01	132	2409	.381E+00	246	2224	.110E+00
20	2618	.126E+01	134	2406	.373E+00	248	2224	.110E+00
22	2616	.124E+01	136	2406	.373E+00	250	2224	.110E+00
24	2616	.124E+01	138	2402	.365E+00	252	2224	.110E+00
26	2618	.126E+01	140	2399	.358E+00	254	2224	.110E+00
28	2618	.126E+01	142	2395	.350E+00	256	2224	.110E+00
30	2618	.126E+01	144	2392	.343E+00	258	2207	.969E-01
32	2616	.124E+01	146	2386	.331E+00	260	2207	.969E-01
34	2616	.124E+01	148	2386	.331E+00	262	2207	.969E-01
36	2618	.126E+01	150	2378	.314E+00	264	2207	.969E-01
38	2618	.126E+01	152	2371	.299E+00	266	2207	.969E-01
40	2618	.126E+01	154	2371	.299E+00	268	2207	.969E-01
42	2616	.124E+01	156	2363	.284E+00	270	2207	.969E-01
44	2616	.124E+01	158	2355	.270E+00	272	2207	.969E-01
46	2618	.126E+01	160	2355	.270E+00	274	2190	.854E-01
48	2618	.126E+01	162	2347	.257E+00	276	2207	.969E-01
50	2618	.126E+01	164	2347	.257E+00	278	2190	.854E-01
52	2618	.126E+01	166	2339	.244E+00	280	2190	.854E-01
54	2616	.124E+01	168	2339	.244E+00	282	2190	.854E-01
56	2618	.126E+01	170	2339	.244E+00	284	2207	.969E-01
58	2621	.127E+01	172	2331	.231E+00	286	2207	.969E-01
60	2618	.126E+01	174	2323	.219E+00	288	2224	.110E+00
62	2618	.126E+01	176	2323	.219E+00	290	2241	.124E+00
64	2616	.124E+01	178	2315	.208E+00	292	2258	.140E+00
66	2613	.122E+01	180	2315	.208E+00	294	2258	.140E+00
68	2603	.116E+01	182	2315	.208E+00	296	2258	.140E+00
70	2595	.111E+01	184	2315	.208E+00	298	2275	.158E+00
72	2582	.104E+01	186	2315	.208E+00	300	2275	.158E+00
74	2569	.965E+00	188	2307	.197E+00	302	2275	.158E+00
76	2558	.912E+00	190	2307	.197E+00	304	2275	.158E+00
78	2548	.861E+00	192	2307	.197E+00	306	2275	.158E+00
80	2540	.824E+00	194	2299	.187E+00	308	2275	.158E+00
82	2532	.789E+00	196	2299	.187E+00	310	2275	.158E+00
84	2525	.755E+00	198	2299	.187E+00	312	2275	.158E+00
86	2517	.722E+00	200	2299	.187E+00	314	2275	.158E+00
88	2512	.701E+00	202	2291	.177E+00	316	2275	.158E+00
90	2509	.691E+00	204	2291	.177E+00	318	2275	.158E+00
92	2501	.660E+00	206	2291	.177E+00	320	2275	.158E+00
94	2496	.641E+00	208	2291	.177E+00	322	2275	.158E+00
96	2491	.622E+00	210	2291	.177E+00	324	2275	.158E+00
98	2484	.599E+00	212	2275	.158E+00	326	2275	.158E+00
100	2477	.575E+00	214	2275	.158E+00	328	2275	.158E+00
102	2471	.553E+00	216	2275	.158E+00	330	2275	.158E+00
104	2467	.542E+00	218	2275	.158E+00	332	2275	.158E+00
106	2464	.531E+00	220	2258	.140E+00	334	2275	.158E+00
108	2457	.510E+00	222	2258	.140E+00	336	2275	.158E+00
110	2454	.500E+00	224	2258	.140E+00	338	2275	.158E+00
112	2447	.480E+00	226	2258	.140E+00	340	2275	.158E+00
114	2443	.470E+00	228	2241	.124E+00	342	2275	.158E+00

TABLE 6 (CONTINUED)

D=1.2mm λ=0.4μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
344	2275	.158E+00	458	2275	.158E+00	572	2190	.854E-01
346	2275	.158E+00	460	2275	.158E+00	574	2190	.854E-01
348	2275	.158E+00	462	2258	.140E+00	576	2190	.854E-01
350	2275	.158E+00	464	2258	.140E+00	578	2173	.751E-01
352	2275	.158E+00	466	2275	.158E+00	580	2173	.751E-01
354	2275	.158E+00	468	2258	.140E+00	582	2173	.751E-01
356	2275	.158E+00	470	2275	.158E+00	584	2173	.751E-01
358	2275	.158E+00	472	2275	.158E+00	586	2173	.751E-01
360	2275	.158E+00	474	2258	.140E+00	588	2156	.659E-01
362	2275	.158E+00	476	2258	.140E+00	590	2156	.659E-01
364	2275	.158E+00	478	2258	.140E+00	592	2156	.659E-01
366	2275	.158E+00	480	2258	.140E+00	594	2156	.659E-01
368	2275	.158E+00	482	2275	.158E+00	596	2156	.659E-01
370	2275	.158E+00	484	2258	.140E+00	598	2156	.659E-01
372	2275	.158E+00	486	2258	.140E+00	600	2139	.577E-01
374	2275	.158E+00	488	2258	.140E+00	602	2139	.577E-01
376	2275	.158E+00	490	2275	.158E+00	604	2139	.577E-01
378	2275	.158E+00	492	2258	.140E+00	606	2139	.577E-01
380	2275	.158E+00	494	2258	.140E+00	608	2139	.577E-01
382	2275	.158E+00	496	2258	.140E+00	610	2122	.504E-01
384	2275	.158E+00	498	2258	.140E+00	612	2122	.504E-01
386	2275	.158E+00	500	2258	.140E+00	614	2122	.504E-01
388	2275	.158E+00	502	2258	.140E+00	616	2122	.504E-01
390	2275	.158E+00	504	2258	.140E+00	618	2122	.504E-01
392	2275	.158E+00	506	2258	.140E+00	620	2122	.504E-01
394	2275	.158E+00	508	2258	.140E+00	622	2105	.439E-01
396	2275	.158E+00	510	2258	.140E+00	624	2105	.439E-01
398	2275	.158E+00	512	2258	.140E+00	626	2105	.439E-01
400	2275	.158E+00	514	2258	.140E+00	628	2105	.439E-01
402	2275	.158E+00	516	2258	.140E+00	630	2105	.439E-01
404	2275	.158E+00	518	2258	.140E+00	632	2105	.439E-01
406	2258	.140E+00	520	2258	.140E+00	634	2105	.439E-01
408	2275	.158E+00	522	2258	.140E+00	636	2105	.439E-01
410	2275	.158E+00	524	2241	.124E+00	638	2063	.313E-01
412	2275	.158E+00	526	2241	.124E+00	640	2105	.439E-01
414	2275	.158E+00	528	2241	.124E+00	642	2105	.439E-01
416	2258	.140E+00	530	2241	.124E+00	644	2063	.313E-01
418	2275	.158E+00	532	2241	.124E+00	646	2063	.313E-01
420	2275	.158E+00	534	2241	.124E+00	648	2063	.313E-01
422	2275	.158E+00	536	2241	.124E+00	650	2063	.313E-01
424	2275	.158E+00	538	2224	.110E+00	652	2063	.313E-01
426	2275	.158E+00	540	2241	.124E+00	654	2063	.313E-01
428	2275	.158E+00	542	2224	.110E+00	656	2063	.313E-01
430	2275	.158E+00	544	2224	.110E+00	658	1998	.177E-01
432	2275	.158E+00	546	2224	.110E+00	660	2063	.313E-01
434	2275	.158E+00	548	2224	.110E+00	662	1998	.177E-01
436	2258	.140E+00	550	2224	.110E+00	664	2063	.313E-01
438	2275	.158E+00	552	2224	.110E+00	666	1998	.177E-01
440	2275	.158E+00	554	2224	.110E+00	668	2063	.313E-01
442	2275	.158E+00	556	2207	.969E-01	670	1998	.177E-01
444	2275	.158E+00	558	2207	.969E-01	672	1998	.177E-01
446	2275	.158E+00	560	2207	.969E-01	674	1998	.177E-01
448	2275	.158E+00	562	2207	.969E-01	676	1998	.177E-01
450	2275	.158E+00	564	2190	.854E-01	678	1998	.177E-01
452	2275	.158E+00	566	2190	.854E-01			
454	2258	.140E+00	568	2190	.854E-01			
456	2258	.140E+00	570	2190	.854E-01			

TABLE 7

D=1.2mm λ=0.45μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
2	2573	.259E+01	90	2531	.210E+01	178	2344	.770E+00
4	2573	.259E+01	92	2525	.205E+01	180	2358	.835E+00
6	2573	.259E+01	94	2520	.199E+01	182	2344	.770E+00
8	2573	.259E+01	96	2509	.189E+01	184	2344	.770E+00
10	2573	.259E+01	98	2509	.189E+01	186	2344	.770E+00
12	2573	.259E+01	100	2504	.184E+01	188	2330	.710E+00
14	2573	.259E+01	102	2499	.179E+01	190	2330	.710E+00
16	2573	.259E+01	104	2499	.179E+01	192	2330	.710E+00
18	2573	.259E+01	106	2493	.174E+01	194	2330	.710E+00
20	2573	.259E+01	108	2488	.169E+01	196	2330	.710E+00
22	2573	.259E+01	110	2483	.165E+01	198	2317	.654E+00
24	2573	.259E+01	112	2483	.165E+01	200	2330	.710E+00
26	2573	.259E+01	114	2477	.160E+01	202	2317	.654E+00
28	2573	.259E+01	116	2472	.156E+01	204	2317	.654E+00
30	2573	.259E+01	118	2465	.150E+01	206	2317	.654E+00
32	2573	.259E+01	120	2465	.150E+01	208	2317	.654E+00
34	2573	.259E+01	122	2456	.143E+01	210	2303	.602E+00
36	2573	.259E+01	124	2456	.143E+01	212	2303	.602E+00
38	2573	.259E+01	126	2446	.136E+01	214	2303	.602E+00
40	2573	.259E+01	128	2437	.129E+01	216	2303	.602E+00
42	2573	.259E+01	130	2437	.129E+01	218	2303	.602E+00
44	2573	.259E+01	132	2428	.123E+01	220	2303	.602E+00
46	2573	.259E+01	134	2428	.123E+01	222	2303	.602E+00
48	2573	.259E+01	136	2419	.117E+01	224	2303	.602E+00
50	2568	.253E+01	138	2419	.117E+01	226	2289	.553E+00
52	2573	.259E+01	140	2419	.117E+01	228	2289	.553E+00
54	2573	.259E+01	142	2409	.111E+01	230	2289	.553E+00
56	2573	.259E+01	144	2400	.106E+01	232	2289	.553E+00
58	2573	.259E+01	146	2400	.106E+01	234	2289	.553E+00
60	2573	.259E+01	148	2391	.100E+01	236	2289	.553E+00
62	2573	.259E+01	150	2391	.100E+01	238	2289	.553E+00
64	2573	.259E+01	152	2381	.952E+00	240	2289	.553E+00
66	2573	.259E+01	154	2381	.952E+00	242	2289	.553E+00
68	2573	.259E+01	156	2381	.952E+00	244	2289	.553E+00
70	2573	.259E+01	158	2381	.952E+00	246	2275	.508E+00
72	2573	.259E+01	160	2381	.952E+00	248	2275	.508E+00
74	2573	.259E+01	162	2381	.952E+00	250	2275	.508E+00
76	2568	.253E+01	164	2372	.903E+00	252	2275	.508E+00
78	2568	.253E+01	166	2372	.903E+00	254	2275	.508E+00
80	2563	.246E+01	168	2372	.903E+00	256	2275	.508E+00
82	2557	.240E+01	170	2358	.835E+00	258	2246	.424E+00
84	2547	.228E+01	172	2358	.835E+00	260	2246	.424E+00
86	2541	.222E+01	174	2358	.835E+00	262	2275	.508E+00
88	2536	.216E+01	176	2358	.835E+00	264	2246	.424E+00

TABLE 7 (CONTINUED)

D=1.2mm λ=0.45μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
266	2246	.424E+00	354	2289	.553E+00	442	2289	.553E+00
268	2246	.424E+00	356	2275	.508E+00	444	2289	.553E+00
270	2246	.424E+00	358	2289	.553E+00	446	2289	.553E+00
272	2246	.424E+00	360	2289	.553E+00	448	2275	.508E+00
274	2246	.424E+00	362	2289	.553E+00	450	2275	.508E+00
276	2246	.424E+00	364	2289	.553E+00	452	2289	.553E+00
278	2217	.351E+00	366	2289	.553E+00	454	2275	.508E+00
280	2246	.424E+00	368	2289	.553E+00	456	2289	.553E+00
282	2246	.424E+00	370	2289	.553E+00	458	2275	.508E+00
284	2246	.424E+00	372	2289	.553E+00	460	2275	.508E+00
286	2217	.351E+00	374	2289	.553E+00	462	2289	.553E+00
288	2217	.351E+00	376	2289	.553E+00	464	2289	.553E+00
290	2217	.351E+00	378	2289	.553E+00	466	2289	.553E+00
292	2217	.351E+00	380	2289	.553E+00	468	2275	.508E+00
294	2217	.351E+00	382	2289	.553E+00	470	2289	.553E+00
296	2217	.351E+00	384	2289	.553E+00	472	2275	.508E+00
298	2217	.351E+00	386	2289	.553E+00	474	2275	.508E+00
300	2217	.351E+00	388	2289	.553E+00	476	2275	.508E+00
302	2217	.351E+00	390	2289	.553E+00	478	2289	.553E+00
304	2246	.424E+00	392	2275	.508E+00	480	2275	.508E+00
306	2217	.351E+00	394	2289	.553E+00	482	2289	.553E+00
308	2217	.351E+00	396	2289	.553E+00	484	2275	.508E+00
310	2217	.351E+00	398	2289	.553E+00	486	2275	.508E+00
312	2246	.424E+00	400	2275	.508E+00	488	2275	.508E+00
314	2246	.424E+00	402	2289	.553E+00	490	2275	.508E+00
316	2275	.508E+00	404	2289	.553E+00	492	2289	.553E+00
318	2275	.508E+00	406	2289	.553E+00	494	2275	.508E+00
320	2275	.508E+00	408	2289	.553E+00	496	2275	.508E+00
322	2289	.553E+00	410	2289	.553E+00	498	2275	.508E+00
324	2289	.553E+00	412	2275	.508E+00	500	2275	.508E+00
326	2289	.553E+00	414	2275	.508E+00	502	2289	.553E+00
328	2289	.553E+00	416	2289	.553E+00	504	2289	.553E+00
330	2289	.553E+00	418	2289	.553E+00	506	2275	.508E+00
332	2275	.508E+00	420	2275	.508E+00	508	2275	.508E+00
334	2289	.553E+00	422	2289	.553E+00	510	2275	.508E+00
336	2289	.553E+00	424	2289	.553E+00	512	2275	.508E+00
338	2289	.553E+00	426	2289	.553E+00	514	2275	.508E+00
340	2289	.553E+00	428	2275	.508E+00	516	2275	.508E+00
342	2289	.553E+00	430	2289	.553E+00	518	2275	.508E+00
344	2289	.553E+00	432	2275	.508E+00	520	2275	.508E+00
346	2289	.553E+00	434	2275	.508E+00	522	2275	.508E+00
348	2289	.553E+00	436	2289	.553E+00	524	2275	.508E+00
350	2289	.553E+00	438	2289	.553E+00	526	2275	.508E+00
352	2289	.553E+00	440	2275	.508E+00	528	2275	.508E+00

TABLE 7 (CONTINUED)

D=1.2mm λ=0.45μm

t	T	B	t	T	B	t	T	B
530	2275	.508E+00	618	2246	.424E+00	706	2158	.238E+00
532	2275	.508E+00	620	2217	.351E+00	708	2158	.238E+00
534	2275	.508E+00	622	2217	.351E+00	710	2129	.194E+00
536	2275	.508E+00	624	2246	.424E+00	712	2129	.194E+00
538	2275	.508E+00	626	2246	.424E+00	714	2129	.194E+00
540	2246	.424E+00	628	2246	.424E+00	716	2129	.194E+00
542	2275	.508E+00	630	2217	.351E+00	718	2129	.194E+00
544	2275	.508E+00	632	2217	.351E+00	720	2129	.194E+00
546	2275	.508E+00	634	2217	.351E+00	722	2129	.194E+00
548	2275	.508E+00	636	2217	.351E+00	724	2129	.194E+00
550	2275	.508E+00	638	2217	.351E+00	726	2129	.194E+00
552	2246	.424E+00	640	2217	.351E+00	728	2129	.194E+00
554	2246	.424E+00	642	2217	.351E+00	730	2129	.194E+00
556	2246	.424E+00	644	2217	.351E+00	732	2100	.157E+00
558	2246	.424E+00	646	2217	.351E+00	734	2129	.194E+00
560	2246	.424E+00	648	2217	.351E+00	736	2129	.194E+00
562	2246	.424E+00	650	2217	.351E+00	738	2129	.194E+00
564	2275	.508E+00	652	2217	.351E+00	740	2129	.194E+00
566	2275	.508E+00	654	2188	.290E+00	742	2100	.157E+00
568	2246	.424E+00	656	2188	.290E+00	744	2129	.194E+00
570	2246	.424E+00	658	2188	.290E+00	746	2100	.157E+00
572	2246	.424E+00	660	2217	.351E+00	748	2100	.157E+00
574	2246	.424E+00	662	2188	.290E+00	750	2100	.157E+00
576	2246	.424E+00	664	2217	.351E+00	752	2100	.157E+00
578	2246	.424E+00	666	2188	.290E+00	754	2100	.157E+00
580	2246	.424E+00	668	2188	.290E+00	756	2100	.157E+00
582	2246	.424E+00	670	2188	.290E+00	758	2100	.157E+00
584	2246	.424E+00	672	2188	.290E+00	760	2100	.157E+00
586	2246	.424E+00	674	2188	.290E+00	762	2100	.157E+00
588	2246	.424E+00	676	2158	.238E+00	764	2100	.157E+00
590	2246	.424E+00	678	2188	.290E+00	766	2100	.157E+00
592	2246	.424E+00	680	2188	.290E+00	768	2100	.157E+00
594	2246	.424E+00	682	2158	.238E+00	770	2100	.157E+00
596	2246	.424E+00	684	2188	.290E+00	772	2054	.112E+00
598	2246	.424E+00	686	2188	.290E+00	774	2054	.112E+00
600	2217	.351E+00	688	2188	.290E+00	776	2054	.112E+00
602	2217	.351E+00	690	2158	.238E+00	778	2054	.112E+00
604	2246	.424E+00	692	2158	.238E+00	780	2054	.112E+00
606	2246	.424E+00	694	2158	.238E+00			
608	2246	.424E+00	696	2158	.238E+00			
610	2217	.351E+00	698	2158	.238E+00			
612	2217	.351E+00	700	2158	.238E+00			
614	2217	.351E+00	702	2158	.238E+00			
616	2217	.351E+00	704	2158	.238E+00			

TABLE 8

D=1.2mm λ=0.5μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
2	2599	.592E+01	116	2478	.345E+01	230	2283	.128E+01
4	2603	.603E+01	118	2469	.330E+01	232	2295	.137E+01
6	2603	.603E+01	120	2469	.330E+01	234	2295	.137E+01
8	2599	.592E+01	122	2464	.323E+01	236	2283	.128E+01
10	2603	.603E+01	124	2459	.316E+01	238	2283	.128E+01
12	2603	.603E+01	126	2455	.309E+01	240	2283	.128E+01
14	2603	.603E+01	128	2450	.301E+01	242	2283	.128E+01
16	2603	.603E+01	130	2443	.292E+01	244	2283	.128E+01
18	2599	.592E+01	132	2443	.292E+01	246	2283	.128E+01
20	2599	.592E+01	134	2437	.284E+01	248	2283	.128E+01
22	2599	.592E+01	136	2431	.275E+01	250	2271	.120E+01
24	2603	.603E+01	138	2424	.267E+01	252	2283	.128E+01
26	2603	.603E+01	140	2424	.267E+01	254	2271	.120E+01
28	2599	.592E+01	142	2418	.259E+01	256	2271	.120E+01
30	2603	.603E+01	144	2418	.259E+01	258	2271	.120E+01
32	2599	.592E+01	146	2412	.251E+01	260	2271	.120E+01
34	2603	.603E+01	148	2405	.243E+01	262	2271	.120E+01
36	2603	.603E+01	150	2405	.243E+01	264	2259	.112E+01
38	2599	.592E+01	152	2399	.235E+01	266	2259	.112E+01
40	2599	.592E+01	154	2399	.235E+01	268	2259	.112E+01
42	2599	.592E+01	156	2393	.228E+01	270	2259	.112E+01
44	2603	.603E+01	158	2386	.221E+01	272	2259	.112E+01
46	2603	.603E+01	160	2386	.221E+01	274	2259	.112E+01
48	2599	.592E+01	162	2380	.214E+01	276	2259	.112E+01
50	2603	.603E+01	164	2380	.214E+01	278	2259	.112E+01
52	2603	.603E+01	166	2380	.214E+01	280	2259	.112E+01
54	2603	.603E+01	168	2374	.207E+01	282	2259	.112E+01
56	2603	.603E+01	170	2368	.201E+01	284	2259	.112E+01
58	2603	.603E+01	172	2368	.201E+01	286	2259	.112E+01
60	2599	.592E+01	174	2368	.201E+01	288	2259	.112E+01
62	2599	.592E+01	176	2361	.194E+01	290	2259	.112E+01
64	2603	.603E+01	178	2355	.188E+01	292	2271	.120E+01
66	2603	.603E+01	180	2355	.188E+01	294	2271	.120E+01
68	2603	.603E+01	182	2355	.188E+01	296	2271	.120E+01
70	2603	.603E+01	184	2355	.188E+01	298	2271	.120E+01
72	2603	.603E+01	186	2355	.188E+01	300	2283	.128E+01
74	2603	.603E+01	188	2343	.177E+01	302	2283	.128E+01
76	2599	.592E+01	190	2343	.177E+01	304	2283	.128E+01
78	2594	.580E+01	192	2343	.177E+01	306	2295	.137E+01
80	2590	.569E+01	194	2331	.166E+01	308	2295	.137E+01
82	2580	.547E+01	196	2331	.166E+01	310	2283	.128E+01
84	2576	.536E+01	198	2319	.156E+01	312	2295	.137E+01
86	2566	.514E+01	200	2331	.166E+01	314	2295	.137E+01
88	2557	.494E+01	202	2319	.156E+01	316	2295	.137E+01
90	2552	.484E+01	204	2319	.156E+01	318	2283	.128E+01
92	2543	.464E+01	206	2319	.156E+01	320	2295	.137E+01
94	2538	.455E+01	208	2307	.146E+01	322	2295	.137E+01
96	2529	.436E+01	210	2307	.146E+01	324	2283	.128E+01
98	2520	.418E+01	212	2307	.146E+01	326	2295	.137E+01
100	2515	.410E+01	214	2307	.146E+01	328	2295	.137E+01
102	2511	.401E+01	216	2307	.146E+01	330	2283	.128E+01
104	2511	.401E+01	218	2307	.146E+01	332	2295	.137E+01
106	2501	.384E+01	220	2307	.146E+01	334	2295	.137E+01
108	2497	.376E+01	222	2307	.146E+01	336	2295	.137E+01
110	2492	.368E+01	224	2295	.137E+01	338	2283	.128E+01
112	2487	.360E+01	226	2295	.137E+01	340	2295	.137E+01
114	2483	.352E+01	228	2295	.137E+01	342	2295	.137E+01

TABLE 8 (CONTINUED)

D=1.2mm λ=0.5μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
344	2295	.137E+01	458	2283	.128E+01	572	2215	.869E+00
346	2295	.137E+01	460	2271	.120E+01	574	2215	.869E+00
348	2295	.137E+01	462	2283	.128E+01	576	2215	.869E+00
350	2283	.128E+01	464	2283	.128E+01	578	2215	.869E+00
352	2295	.137E+01	466	2283	.128E+01	580	2215	.869E+00
354	2295	.137E+01	468	2283	.128E+01	582	2215	.869E+00
356	2295	.137E+01	470	2283	.128E+01	584	2215	.869E+00
358	2295	.137E+01	472	2271	.120E+01	586	2193	.763E+00
360	2283	.128E+01	474	2283	.128E+01	588	2215	.869E+00
362	2283	.128E+01	476	2271	.120E+01	590	2193	.763E+00
364	2283	.128E+01	478	2271	.120E+01	592	2193	.763E+00
366	2295	.137E+01	480	2271	.120E+01	594	2193	.763E+00
368	2295	.137E+01	482	2271	.120E+01	596	2193	.763E+00
370	2283	.128E+01	484	2271	.120E+01	598	2193	.763E+00
372	2283	.128E+01	486	2271	.120E+01	600	2193	.763E+00
374	2295	.137E+01	488	2271	.120E+01	602	2193	.763E+00
376	2295	.137E+01	490	2271	.120E+01	604	2193	.763E+00
378	2283	.128E+01	492	2271	.120E+01	606	2171	.668E+00
380	2283	.128E+01	494	2271	.120E+01	608	2171	.668E+00
382	2283	.128E+01	496	2271	.120E+01	610	2171	.668E+00
384	2283	.128E+01	498	2271	.120E+01	612	2171	.668E+00
386	2283	.128E+01	500	2271	.120E+01	614	2171	.668E+00
388	2295	.137E+01	502	2271	.120E+01	616	2171	.668E+00
390	2283	.128E+01	504	2271	.120E+01	618	2171	.668E+00
392	2283	.128E+01	506	2259	.112E+01	620	2171	.668E+00
394	2295	.137E+01	508	2271	.120E+01	622	2149	.583E+00
396	2283	.128E+01	510	2259	.112E+01	624	2149	.583E+00
398	2283	.128E+01	512	2259	.112E+01	626	2149	.583E+00
400	2283	.128E+01	514	2271	.120E+01	628	2149	.583E+00
402	2283	.128E+01	516	2271	.120E+01	630	2149	.583E+00
404	2283	.128E+01	518	2259	.112E+01	632	2127	.507E+00
406	2283	.128E+01	520	2259	.112E+01	634	2127	.507E+00
408	2283	.128E+01	522	2259	.112E+01	636	2127	.507E+00
410	2283	.128E+01	524	2259	.112E+01	638	2127	.507E+00
412	2283	.128E+01	526	2259	.112E+01	640	2127	.507E+00
414	2283	.128E+01	528	2259	.112E+01	642	2127	.507E+00
416	2283	.128E+01	530	2259	.112E+01	644	2105	.440E+00
418	2283	.128E+01	532	2237	.988E+00	646	2105	.440E+00
420	2283	.128E+01	534	2259	.112E+01	648	2105	.440E+00
422	2283	.128E+01	536	2259	.112E+01	650	2105	.440E+00
424	2283	.128E+01	538	2237	.988E+00	652	2105	.440E+00
426	2283	.128E+01	540	2237	.988E+00	654	2105	.440E+00
428	2283	.128E+01	542	2259	.112E+01	656	2105	.440E+00
430	2283	.128E+01	544	2259	.112E+01	658	2105	.440E+00
432	2283	.128E+01	546	2237	.988E+00	660	2082	.380E+00
434	2283	.128E+01	548	2259	.112E+01	662	2082	.380E+00
436	2283	.128E+01	550	2237	.988E+00	664	2082	.380E+00
438	2283	.128E+01	552	2237	.988E+00	666	2082	.380E+00
440	2283	.128E+01	554	2237	.988E+00	668	2082	.380E+00
442	2283	.128E+01	556	2237	.988E+00	670	2082	.380E+00
444	2283	.128E+01	558	2237	.988E+00	672	2082	.380E+00
446	2283	.128E+01	560	2237	.988E+00	674	2054	.314E+00
448	2283	.128E+01	562	2215	.869E+00	676	2082	.380E+00
450	2283	.128E+01	564	2215	.869E+00	678	2054	.314E+00
452	2283	.128E+01	566	2215	.869E+00			
454	2283	.128E+01	568	2215	.869E+00			
456	2283	.128E+01	570	2215	.869E+00			

TABLE 9

D=1.2mm λ=0.6μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
2	2514	.110E+02	102	2418	.756E+01	202	2266	.388E+01
4	2514	.110E+02	104	2415	.745E+01	204	2266	.388E+01
6	2514	.110E+02	106	2411	.733E+01	206	2266	.388E+01
8	2514	.110E+02	108	2407	.722E+01	208	2260	.377E+01
10	2516	.111E+02	110	2403	.710E+01	210	2260	.377E+01
12	2516	.111E+02	112	2399	.699E+01	212	2260	.377E+01
14	2516	.111E+02	114	2395	.687E+01	214	2260	.377E+01
16	2516	.111E+02	116	2391	.676E+01	216	2253	.365E+01
18	2516	.111E+02	118	2387	.664E+01	218	2253	.365E+01
20	2516	.111E+02	120	2379	.641E+01	220	2253	.365E+01
22	2516	.111E+02	122	2379	.641E+01	222	2253	.365E+01
24	2516	.111E+02	124	2375	.630E+01	224	2246	.354E+01
26	2516	.111E+02	126	2370	.618E+01	226	2246	.354E+01
28	2516	.111E+02	128	2366	.607E+01	228	2246	.354E+01
30	2516	.111E+02	130	2361	.595E+01	230	2246	.354E+01
32	2516	.111E+02	132	2357	.584E+01	232	2239	.342E+01
34	2516	.111E+02	134	2357	.584E+01	234	2239	.342E+01
36	2516	.111E+02	136	2352	.572E+01	236	2239	.342E+01
38	2516	.111E+02	138	2348	.561E+01	238	2239	.342E+01
40	2516	.111E+02	140	2348	.561E+01	240	2232	.331E+01
42	2516	.111E+02	142	2343	.549E+01	242	2232	.331E+01
44	2516	.111E+02	144	2343	.549E+01	244	2232	.331E+01
46	2516	.111E+02	146	2338	.538E+01	246	2232	.331E+01
48	2516	.111E+02	148	2333	.526E+01	248	2225	.319E+01
50	2516	.111E+02	150	2333	.526E+01	250	2225	.319E+01
52	2516	.111E+02	152	2328	.515E+01	252	2225	.319E+01
54	2516	.111E+02	154	2328	.515E+01	254	2225	.319E+01
56	2516	.111E+02	156	2323	.503E+01	256	2225	.319E+01
58	2516	.111E+02	158	2323	.503E+01	258	2225	.319E+01
60	2516	.111E+02	160	2318	.492E+01	260	2217	.308E+01
62	2516	.111E+02	162	2312	.480E+01	262	2217	.308E+01
64	2514	.110E+02	164	2312	.480E+01	264	2217	.308E+01
66	2511	.109E+02	166	2312	.480E+01	266	2217	.308E+01
68	2505	.107E+02	168	2307	.469E+01	268	2217	.308E+01
70	2500	.104E+02	170	2302	.457E+01	270	2225	.319E+01
72	2494	.102E+02	172	2302	.457E+01	272	2225	.319E+01
74	2488	.998E+01	174	2302	.457E+01	274	2225	.319E+01
76	2482	.975E+01	176	2296	.446E+01	276	2225	.319E+01
78	2476	.952E+01	178	2296	.446E+01	278	2232	.331E+01
80	2469	.929E+01	180	2290	.434E+01	280	2232	.331E+01
82	2466	.917E+01	182	2284	.423E+01	282	2232	.331E+01
84	2463	.906E+01	184	2290	.434E+01	284	2239	.342E+01
86	2457	.883E+01	186	2284	.423E+01	286	2246	.354E+01
88	2453	.871E+01	188	2284	.423E+01	288	2246	.354E+01
90	2447	.848E+01	190	2278	.411E+01	290	2253	.365E+01
92	2443	.837E+01	192	2278	.411E+01	292	2253	.365E+01
94	2436	.814E+01	194	2278	.411E+01	294	2253	.365E+01
96	2433	.802E+01	196	2272	.400E+01	296	2260	.377E+01
98	2426	.779E+01	198	2272	.400E+01	298	2260	.377E+01
100	2422	.768E+01	200	2272	.400E+01	300	2260	.377E+01

TABLE 9 (CONTINUED)

D=1.2mm λ=0.6μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
302	2260	.377E+01	402	2260	.377E+01	502	2253	.365E+01
304	2266	.388E+01	404	2260	.377E+01	504	2246	.354E+01
306	2266	.388E+01	406	2260	.377E+01	506	2246	.354E+01
308	2266	.388E+01	408	2260	.377E+01	508	2253	.365E+01
310	2266	.388E+01	410	2260	.377E+01	510	2246	.354E+01
312	2266	.388E+01	412	2260	.377E+01	512	2246	.354E+01
314	2266	.388E+01	414	2260	.377E+01	514	2246	.354E+01
316	2266	.388E+01	416	2260	.377E+01	516	2246	.354E+01
318	2266	.388E+01	418	2260	.377E+01	518	2246	.354E+01
320	2266	.388E+01	420	2260	.377E+01	520	2246	.354E+01
322	2266	.388E+01	422	2260	.377E+01	522	2246	.354E+01
324	2266	.388E+01	424	2260	.377E+01	524	2246	.354E+01
326	2266	.388E+01	426	2260	.377E+01	526	2246	.354E+01
328	2266	.388E+01	428	2260	.377E+01	528	2246	.354E+01
330	2266	.388E+01	430	2260	.377E+01	530	2246	.354E+01
332	2266	.388E+01	432	2260	.377E+01	532	2246	.354E+01
334	2266	.388E+01	434	2260	.377E+01	534	2246	.354E+01
336	2266	.388E+01	436	2260	.377E+01	536	2246	.354E+01
338	2266	.388E+01	438	2260	.377E+01	538	2246	.354E+01
340	2266	.388E+01	440	2260	.377E+01	540	2246	.354E+01
342	2266	.388E+01	442	2260	.377E+01	542	2246	.354E+01
344	2266	.388E+01	444	2260	.377E+01	544	2239	.342E+01
346	2266	.388E+01	446	2260	.377E+01	546	2239	.342E+01
348	2266	.388E+01	448	2260	.377E+01	548	2246	.354E+01
350	2266	.388E+01	450	2260	.377E+01	550	2239	.342E+01
352	2266	.388E+01	452	2260	.377E+01	552	2239	.342E+01
354	2266	.388E+01	454	2260	.377E+01	554	2239	.342E+01
356	2266	.388E+01	456	2260	.377E+01	556	2239	.342E+01
358	2266	.388E+01	458	2260	.377E+01	558	2239	.342E+01
360	2266	.388E+01	460	2260	.377E+01	560	2239	.342E+01
362	2266	.388E+01	462	2253	.365E+01	562	2239	.342E+01
364	2260	.377E+01	464	2253	.365E+01	564	2232	.331E+01
366	2266	.388E+01	466	2260	.377E+01	566	2232	.331E+01
368	2266	.388E+01	468	2260	.377E+01	568	2232	.331E+01
370	2266	.388E+01	470	2253	.365E+01	570	2232	.331E+01
372	2260	.377E+01	472	2253	.365E+01	572	2232	.331E+01
374	2266	.388E+01	474	2253	.365E+01	574	2232	.331E+01
376	2260	.377E+01	476	2253	.365E+01	576	2232	.331E+01
378	2260	.377E+01	478	2253	.365E+01	578	2232	.331E+01
380	2260	.377E+01	480	2253	.365E+01	580	2232	.331E+01
382	2260	.377E+01	482	2253	.365E+01	582	2232	.331E+01
384	2260	.377E+01	484	2253	.365E+01	584	2225	.319E+01
386	2266	.388E+01	486	2253	.365E+01	586	2225	.319E+01
388	2260	.377E+01	488	2253	.365E+01	588	2225	.319E+01
390	2260	.377E+01	490	2253	.365E+01	590	2225	.319E+01
392	2260	.377E+01	492	2253	.365E+01	592	2225	.319E+01
394	2266	.388E+01	494	2253	.365E+01	594	2225	.319E+01
396	2260	.377E+01	496	2253	.365E+01	596	2225	.319E+01
398	2260	.377E+01	498	2253	.365E+01	598	2225	.319E+01
400	2260	.377E+01	500	2253	.365E+01	600	2217	.308E+01

TABLE 9 (CONTINUED)

D=1.2mm λ=0.6μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
602	2217	.308E+01	702	2126	.193E+01	802	1990	.895E+00
604	2217	.308E+01	704	2126	.193E+01	804	1990	.895E+00
606	2217	.308E+01	706	2114	.181E+01	806	1968	.780E+00
608	2217	.308E+01	708	2114	.181E+01	808	1968	.780E+00
610	2210	.296E+01	710	2114	.181E+01	810	1968	.780E+00
612	2210	.296E+01	712	2102	.170E+01	812	1968	.780E+00
614	2210	.296E+01	714	2102	.170E+01	814	1968	.780E+00
616	2210	.296E+01	716	2102	.170E+01	816	1968	.780E+00
618	2202	.285E+01	718	2089	.159E+01	818	1968	.780E+00
620	2202	.285E+01	720	2089	.159E+01	820	1968	.780E+00
622	2202	.285E+01	722	2089	.159E+01	822	1968	.780E+00
624	2202	.285E+01	724	2089	.159E+01	824	1968	.780E+00
626	2193	.273E+01	726	2075	.147E+01	826	1942	.665E+00
628	2202	.285E+01	728	2089	.159E+01	828	1968	.780E+00
630	2193	.273E+01	730	2075	.147E+01	830	1942	.665E+00
632	2193	.273E+01	732	2075	.147E+01	832	1968	.780E+00
634	2193	.273E+01	734	2075	.147E+01	834	1942	.665E+00
636	2193	.273E+01	736	2075	.147E+01	836	1942	.665E+00
638	2193	.273E+01	738	2061	.136E+01	838	1942	.665E+00
640	2193	.273E+01	740	2061	.136E+01	840	1942	.665E+00
642	2185	.262E+01	742	2061	.136E+01	842	1942	.665E+00
644	2185	.262E+01	744	2061	.136E+01	844	1942	.665E+00
646	2185	.262E+01	746	2061	.136E+01	846	1942	.665E+00
648	2185	.262E+01	748	2061	.136E+01	848	1942	.665E+00
650	2185	.262E+01	750	2061	.136E+01	850	1942	.665E+00
652	2185	.262E+01	752	2045	.124E+01	852	1942	.665E+00
654	2176	.250E+01	754	2045	.124E+01	854	1942	.665E+00
656	2176	.250E+01	756	2045	.124E+01	856	1942	.665E+00
658	2176	.250E+01	758	2029	.113E+01	858	1942	.665E+00
660	2176	.250E+01	760	2045	.124E+01	860	1942	.665E+00
662	2176	.250E+01	762	2029	.113E+01	862	1942	.665E+00
664	2167	.239E+01	764	2029	.113E+01	864	1942	.665E+00
666	2157	.227E+01	766	2010	.101E+01	866	1942	.665E+00
668	2167	.239E+01	768	2029	.113E+01	868	1942	.665E+00
670	2157	.227E+01	770	2029	.113E+01	870	1942	.665E+00
672	2157	.227E+01	772	2010	.101E+01	872	1942	.665E+00
674	2157	.227E+01	774	2010	.101E+01	874	1942	.665E+00
676	2147	.216E+01	776	2010	.101E+01	876	1913	.550E+00
678	2147	.216E+01	778	2010	.101E+01	878	1942	.665E+00
680	2147	.216E+01	780	2010	.101E+01	880	1913	.550E+00
682	2147	.216E+01	782	2010	.101E+01	882	1913	.550E+00
684	2147	.216E+01	784	2010	.101E+01	884	1913	.550E+00
686	2137	.204E+01	786	1990	.895E+00	886	1913	.550E+00
688	2137	.204E+01	788	1990	.895E+00	888	1913	.550E+00
690	2137	.204E+01	790	1990	.895E+00	890	1913	.550E+00
692	2137	.204E+01	792	1990	.895E+00	892	1913	.550E+00
694	2126	.193E+01	794	1990	.895E+00	894	1913	.550E+00
696	2126	.193E+01	796	1990	.895E+00	896	1913	.550E+00
698	2126	.193E+01	798	1990	.895E+00	898	1913	.550E+00
700	2126	.193E+01	800	1990	.895E+00	900	1913	.550E+00

TABLE 9 (CONTINUED)

D=1.2mm λ=0.6μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
902	1913	.550E+00	1002	1878	.435E+00	1102	1834	.320E+00
904	1913	.550E+00	1004	1878	.435E+00	1104	1834	.320E+00
906	1913	.550E+00	1006	1878	.435E+00	1106	1834	.320E+00
908	1913	.550E+00	1008	1834	.320E+00	1108	1834	.320E+00
910	1913	.550E+00	1010	1878	.435E+00	1110	1834	.320E+00
912	1913	.550E+00	1012	1878	.435E+00	1112	1834	.320E+00
914	1913	.550E+00	1014	1878	.435E+00	1114	1834	.320E+00
916	1913	.550E+00	1016	1878	.435E+00	1116	1834	.320E+00
918	1913	.550E+00	1018	1878	.435E+00	1118	1834	.320E+00
920	1913	.550E+00	1020	1878	.435E+00	1120	1834	.320E+00
922	1913	.550E+00	1022	1834	.320E+00	1122	1834	.320E+00
924	1913	.550E+00	1024	1878	.435E+00	1124	1834	.320E+00
926	1913	.550E+00	1026	1834	.320E+00	1126	1834	.320E+00
928	1878	.435E+00	1028	1834	.320E+00	1128	1834	.320E+00
930	1878	.435E+00	1030	1834	.320E+00	1130	1834	.320E+00
932	1913	.550E+00	1032	1834	.320E+00	1132	1834	.320E+00
934	1913	.550E+00	1034	1834	.320E+00	1134	1834	.320E+00
936	1913	.550E+00	1036	1878	.435E+00	1136	1834	.320E+00
938	1913	.550E+00	1038	1834	.320E+00	1138	1834	.320E+00
940	1913	.550E+00	1040	1834	.320E+00	1140	1834	.320E+00
942	1878	.435E+00	1042	1834	.320E+00	1142	1773	.206E+00
944	1878	.435E+00	1044	1834	.320E+00	1144	1834	.320E+00
946	1878	.435E+00	1046	1834	.320E+00	1146	1834	.320E+00
948	1878	.435E+00	1048	1834	.320E+00	1148	1834	.320E+00
950	1878	.435E+00	1050	1834	.320E+00	1150	1773	.206E+00
952	1913	.550E+00	1052	1834	.320E+00	1152	1834	.320E+00
954	1878	.435E+00	1054	1834	.320E+00	1154	1834	.320E+00
956	1878	.435E+00	1056	1834	.320E+00	1156	1834	.320E+00
958	1878	.435E+00	1058	1834	.320E+00	1158	1773	.206E+00
960	1878	.435E+00	1060	1834	.320E+00	1160	1834	.320E+00
962	1878	.435E+00	1062	1834	.320E+00	1162	1773	.206E+00
964	1878	.435E+00	1064	1834	.320E+00	1164	1773	.206E+00
966	1878	.435E+00	1066	1834	.320E+00	1166	1773	.206E+00
968	1878	.435E+00	1068	1834	.320E+00	1168	1834	.320E+00
970	1878	.435E+00	1070	1834	.320E+00	1170	1773	.206E+00
972	1878	.435E+00	1072	1834	.320E+00	1172	1773	.206E+00
974	1878	.435E+00	1074	1834	.320E+00	1174	1834	.320E+00
976	1878	.435E+00	1076	1834	.320E+00	1176	1773	.206E+00
978	1878	.435E+00	1078	1834	.320E+00	1178	1773	.206E+00
980	1878	.435E+00	1080	1834	.320E+00	1180	1773	.206E+00
982	1878	.435E+00	1082	1834	.320E+00	1182	1834	.320E+00
984	1878	.435E+00	1084	1834	.320E+00	1184	1773	.206E+00
986	1878	.435E+00	1086	1834	.320E+00	1186	1773	.206E+00
988	1878	.435E+00	1088	1834	.320E+00	1188	1773	.206E+00
990	1878	.435E+00	1090	1834	.320E+00			
992	1878	.435E+00	1092	1834	.320E+00			
994	1878	.435E+00	1094	1834	.320E+00			
996	1878	.435E+00	1096	1834	.320E+00			
998	1878	.435E+00	1098	1834	.320E+00			
1000	1878	.435E+00	1100	1834	.320E+00			

TABLE 10

D=1.5mm λ=0.26μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
2	2587	.515E-02	116	2395	.924E-03	266	2263	.241E-03
4	2587	.515E-02	118	2395	.924E-03	268	2300	.355E-03
6	2587	.515E-02	120	2395	.924E-03	270	2263	.241E-03
8	2584	.503E-02	122	2381	.810E-03	272	2300	.355E-03
10	2584	.503E-02	124	2381	.810E-03	274	2300	.355E-03
12	2587	.515E-02	126	2366	.696E-03	276	2300	.355E-03
14	2584	.503E-02	128	2366	.696E-03	278	2300	.355E-03
16	2582	.492E-02	130	2348	.582E-03	280	2300	.355E-03
18	2576	.469E-02	132	2348	.582E-03	282	2300	.355E-03
20	2576	.469E-02	134	2348	.582E-03	284	2300	.355E-03
22	2570	.446E-02	136	2366	.696E-03	286	2300	.355E-03
24	2567	.435E-02	138	2366	.696E-03	288	2300	.355E-03
26	2560	.412E-02	140	2366	.696E-03	290	2300	.355E-03
28	2557	.400E-02	142	2348	.582E-03	292	2300	.355E-03
30	2557	.400E-02	144	2348	.582E-03	294	2300	.355E-03
32	2550	.377E-02	146	2327	.469E-03	296	2300	.355E-03
34	2547	.366E-02	148	2327	.469E-03	298	2327	.469E-03
36	2543	.355E-02	150	2327	.469E-03	300	2327	.469E-03
38	2539	.343E-02	152	2327	.469E-03	302	2327	.469E-03
40	2535	.332E-02	154	2327	.469E-03	304	2327	.469E-03
42	2527	.309E-02	156	2327	.469E-03	306	2300	.355E-03
44	2527	.309E-02	158	2327	.469E-03	308	2300	.355E-03
46	2522	.297E-02	160	2300	.355E-03	310	2300	.355E-03
48	2513	.275E-02	162	2300	.355E-03	312	2300	.355E-03
50	2513	.275E-02	164	2300	.355E-03	314	2300	.355E-03
52	2509	.263E-02	166	2300	.355E-03	316	2300	.355E-03
54	2509	.263E-02	168	2300	.355E-03	318	2300	.355E-03
56	2503	.252E-02	170	2327	.469E-03	320	2300	.355E-03
58	2498	.240E-02	172	2300	.355E-03	322	2300	.355E-03
60	2493	.229E-02	174	2327	.469E-03	324	2300	.355E-03
62	2487	.218E-02	176	2300	.355E-03	326	2263	.241E-03
64	2487	.218E-02	178	2300	.355E-03	328	2263	.241E-03
66	2481	.206E-02	180	2300	.355E-03	330	2300	.355E-03
68	2475	.195E-02	182	2300	.355E-03	332	2300	.355E-03
70	2475	.195E-02	184	2300	.355E-03	334	2300	.355E-03
72	2468	.183E-02	186	2300	.355E-03	336	2300	.355E-03
74	2468	.183E-02	188	2300	.355E-03	338	2300	.355E-03
76	2468	.183E-02	190	2300	.355E-03	340	2300	.355E-03
78	2461	.172E-02	192	2263	.241E-03	342	2300	.355E-03
80	2454	.161E-02	194	2300	.355E-03	344	2300	.355E-03
82	2446	.149E-02	196	2300	.355E-03	346	2300	.355E-03
84	2446	.149E-02	198	2263	.241E-03	348	2300	.355E-03
86	2437	.138E-02	200	2300	.355E-03	350	2300	.355E-03
88	2437	.138E-02	202	2263	.241E-03	352	2300	.355E-03
90	2428	.126E-02	204	2263	.241E-03	354	2300	.355E-03
92	2428	.126E-02	206	2263	.241E-03	356	2300	.355E-03
94	2428	.126E-02	208	2263	.241E-03	358	2300	.355E-03
96	2428	.126E-02	210	2263	.241E-03	360	2300	.355E-03
98	2428	.126E-02	212	2263	.241E-03	362	2300	.355E-03
100	2428	.126E-02	214	2263	.241E-03	364	2300	.355E-03
102	2428	.126E-02	216	2263	.241E-03	366	2263	.241E-03
104	2418	.115E-02	218	2263	.241E-03	368	2300	.355E-03
106	2407	.104E-02	256	2263	.241E-03	370	2300	.355E-03
108	2407	.104E-02	258	2263	.241E-03	372	2300	.355E-03
110	2407	.104E-02	260	2300	.355E-03	374	2300	.355E-03
112	2395	.924E-03	262	2263	.241E-03	376	2300	.355E-03
114	2395	.924E-03	264	2263	.241E-03	378	2300	.355E-03

TABLE 10 (CONTINUED)

D=1.5mm λ=0.26μm

t	T_p	B_λ	t	T_b	B_λ	t	T_b	B_λ
380	2263	.241E-03	494	2300	.355E-03	608	2263	.241E-03
382	2300	.355E-03	496	2327	.469E-03	610	2300	.355E-03
384	2300	.355E-03	498	2327	.469E-03	612	2300	.355E-03
386	2300	.355E-03	500	2327	.469E-03	614	2300	.355E-03
388	2300	.355E-03	502	2327	.469E-03	616	2300	.355E-03
390	2327	.469E-03	504	2327	.469E-03	618	2300	.355E-03
392	2327	.469E-03	506	2327	.469E-03	620	2300	.355E-03
394	2327	.469E-03	508	2300	.355E-03	622	2300	.355E-03
396	2327	.469E-03	510	2300	.355E-03	624	2300	.355E-03
398	2327	.469E-03	512	2300	.355E-03	626	2300	.355E-03
400	2300	.355E-03	514	2327	.469E-03	628	2300	.355E-03
402	2300	.355E-03	516	2327	.469E-03	630	2300	.355E-03
404	2300	.355E-03	518	2327	.469E-03	632	2300	.355E-03
406	2300	.355E-03	520	2327	.469E-03	634	2300	.355E-03
408	2300	.355E-03	522	2327	.469E-03	636	2263	.241E-03
410	2327	.469E-03	524	2300	.355E-03	638	2263	.241E-03
412	2300	.355E-03	526	2300	.355E-03	640	2300	.355E-03
414	2300	.355E-03	528	2300	.355E-03	642	2300	.355E-03
416	2327	.469E-03	530	2300	.355E-03	644	2300	.355E-03
418	2300	.355E-03	532	2300	.355E-03	646	2263	.241E-03
420	2300	.355E-03	534	2300	.355E-03	648	2300	.355E-03
422	2327	.469E-03	536	2300	.355E-03	650	2263	.241E-03
424	2300	.355E-03	538	2300	.355E-03	652	2263	.241E-03
426	2327	.469E-03	540	2300	.355E-03	654	2300	.355E-03
428	2327	.469E-03	542	2300	.355E-03	656	2300	.355E-03
430	2327	.469E-03	544	2300	.355E-03	658	2300	.355E-03
432	2327	.469E-03	546	2300	.355E-03	660	2300	.355E-03
434	2327	.469E-03	548	2300	.355E-03	662	2300	.355E-03
436	2327	.469E-03	550	2300	.355E-03	664	2300	.355E-03
438	2327	.469E-03	552	2300	.355E-03	666	2263	.241E-03
440	2300	.355E-03	554	2300	.355E-03	668	2263	.241E-03
442	2327	.469E-03	556	2327	.469E-03	670	2263	.241E-03
444	2300	.355E-03	558	2327	.469E-03	672	2263	.241E-03
446	2327	.469E-03	560	2327	.469E-03	674	2263	.241E-03
448	2300	.355E-03	562	2327	.469E-03	676	2300	.355E-03
450	2300	.355E-03	564	2300	.355E-03	678	2300	.355E-03
452	2300	.355E-03	566	2300	.355E-03	680	2300	.355E-03
454	2300	.355E-03	568	2300	.355E-03	682	2263	.241E-03
456	2327	.469E-03	570	2300	.355E-03	684	2263	.241E-03
458	2327	.469E-03	572	2300	.355E-03	686	2263	.241E-03
460	2327	.469E-03	574	2300	.355E-03	688	2263	.241E-03
462	2300	.355E-03	576	2300	.355E-03	690	2263	.241E-03
464	2300	.355E-03	578	2300	.355E-03	692	2263	.241E-03
466	2300	.355E-03	580	2300	.355E-03	694	2263	.241E-03
468	2300	.355E-03	582	2300	.355E-03	696	2263	.241E-03
470	2300	.355E-03	584	2300	.355E-03	698	2263	.241E-03
472	2300	.355E-03	586	2300	.355E-03	700	2263	.241E-03
474	2300	.355E-03	588	2300	.355E-03	702	2263	.241E-03
476	2300	.355E-03	590	2300	.355E-03	704	2263	.241E-03
478	2300	.355E-03	592	2263	.241E-03	706	2263	.241E-03
480	2327	.469E-03	594	2300	.355E-03	708	2263	.241E-03
482	2327	.469E-03	596	2300	.355E-03	710	2263	.241E-03
484	2300	.355E-03	598	2300	.355E-03	712	2263	.241E-03
486	2300	.355E-03	600	2300	.355E-03	714	2263	.241E-03
488	2327	.469E-03	602	2300	.355E-03	716	2263	.241E-03
490	2327	.469E-03	604	2300	.355E-03			
492	2327	.469E-03	606	2300	.355E-03			

TABLE 11

D=1.5mm λ=0.28μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
2	2632	.230E-01	84	2615	.202E-01	166	2410	.380E-02
4	2632	.230E-01	86	2612	.198E-01	168	2410	.380E-02
6	2632	.230E-01	88	2606	.190E-01	170	2405	.364E-02
8	2632	.230E-01	90	2602	.184E-01	172	2395	.332E-02
10	2632	.230E-01	92	2598	.178E-01	174	2395	.332E-02
12	2632	.230E-01	94	2593	.172E-01	176	2389	.316E-02
14	2632	.230E-01	96	2589	.166E-01	178	2384	.300E-02
16	2632	.230E-01	98	2583	.158E-01	180	2378	.284E-02
18	2632	.230E-01	100	2578	.152E-01	182	2378	.284E-02
20	2632	.230E-01	102	2573	.147E-01	184	2371	.268E-02
22	2632	.230E-01	104	2570	.143E-01	186	2371	.268E-02
24	2632	.230E-01	106	2564	.137E-01	188	2371	.268E-02
26	2632	.230E-01	108	2557	.130E-01	190	2365	.253E-02
28	2632	.230E-01	110	2552	.124E-01	192	2358	.237E-02
30	2632	.230E-01	112	2544	.117E-01	194	2350	.221E-02
32	2632	.230E-01	114	2540	.113E-01	196	2350	.221E-02
34	2632	.230E-01	116	2534	.108E-01	198	2342	.206E-02
36	2632	.230E-01	118	2528	.103E-01	200	2342	.206E-02
38	2632	.230E-01	120	2521	.973E-02	202	2342	.206E-02
40	2632	.230E-01	122	2516	.937E-02	204	2342	.206E-02
42	2632	.230E-01	124	2509	.885E-02	206	2334	.190E-02
44	2632	.230E-01	126	2504	.850E-02	208	2334	.190E-02
46	2632	.230E-01	128	2497	.798E-02	210	2325	.174E-02
48	2632	.230E-01	130	2494	.781E-02	212	2315	.159E-02
50	2632	.230E-01	132	2489	.746E-02	214	2325	.174E-02
52	2632	.230E-01	134	2483	.712E-02	216	2315	.159E-02
54	2632	.230E-01	136	2480	.695E-02	218	2305	.143E-02
56	2632	.230E-01	138	2474	.661E-02	220	2305	.143E-02
58	2632	.230E-01	140	2471	.644E-02	222	2315	.159E-02
60	2632	.230E-01	142	2468	.627E-02	224	2305	.143E-02
62	2632	.230E-01	144	2461	.594E-02	226	2305	.143E-02
64	2632	.230E-01	146	2458	.577E-02	228	2305	.143E-02
66	2632	.230E-01	148	2451	.544E-02	230	2293	.128E-02
68	2632	.230E-01	150	2448	.527E-02	232	2293	.128E-02
70	2632	.230E-01	152	2444	.511E-02	234	2293	.128E-02
72	2632	.230E-01	154	2440	.494E-02	236	2280	.113E-02
74	2632	.230E-01	156	2436	.478E-02	238	2280	.113E-02
76	2631	.228E-01	158	2432	.462E-02	240	2280	.113E-02
78	2627	.222E-01	160	2428	.445E-02	242	2280	.113E-02
80	2622	.214E-01	162	2424	.429E-02	244	2280	.113E-02
82	2621	.212E-01	164	2419	.413E-02	246	2265	.972E-03

TABLE 11 (CONTINUED)

D=1.5mm λ=0.28μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
248	2265	.972E-03	330	2265	.972E-03	412	2293	.128E-02
250	2265	.972E-03	332	2265	.972E-03	414	2293	.128E-02
252	2265	.972E-03	334	2265	.972E-03	416	2293	.128E-02
254	2248	.819E-03	336	2280	.113E-02	418	2293	.128E-02
256	2248	.819E-03	338	2280	.113E-02	420	2293	.128E-02
258	2248	.819E-03	340	2280	.113E-02	422	2293	.128E-02
260	2248	.819E-03	342	2293	.128E-02	424	2305	.143E-02
262	2265	.972E-03	344	2293	.128E-02	426	2293	.128E-02
264	2248	.819E-03	346	2293	.128E-02	428	2293	.128E-02
266	2248	.819E-03	348	2293	.128E-02	430	2293	.128E-02
268	2248	.819E-03	350	2293	.128E-02	432	2280	.113E-02
270	2248	.819E-03	352	2293	.128E-02	434	2293	.128E-02
272	2228	.666E-03	354	2293	.128E-02	436	2293	.128E-02
274	2248	.819E-03	356	2293	.128E-02	438	2293	.128E-02
276	2248	.819E-03	358	2280	.113E-02	440	2293	.128E-02
278	2228	.666E-03	360	2293	.128E-02	442	2293	.128E-02
280	2248	.819E-03	362	2293	.128E-02	444	2293	.128E-02
282	2248	.819E-03	364	2293	.128E-02	446	2293	.128E-02
284	2248	.819E-03	366	2293	.128E-02	448	2293	.128E-02
286	2228	.666E-03	368	2293	.128E-02	450	2293	.128E-02
288	2228	.666E-03	370	2293	.128E-02	452	2280	.113E-02
290	2228	.666E-03	372	2280	.113E-02	454	2293	.128E-02
292	2228	.666E-03	374	2293	.128E-02	456	2293	.128E-02
294	2228	.666E-03	376	2305	.143E-02	458	2280	.113E-02
296	2228	.666E-03	378	2293	.128E-02	460	2293	.128E-02
298	2203	.514E-03	380	2293	.128E-02	462	2305	.143E-02
300	2203	.514E-03	382	2293	.128E-02	464	2293	.128E-02
302	2228	.666E-03	384	2293	.128E-02	466	2293	.128E-02
304	2203	.514E-03	386	2293	.128E-02	468	2293	.128E-02
306	2203	.514E-03	388	2293	.128E-02	470	2293	.128E-02
308	2203	.514E-03	390	2293	.128E-02	472	2293	.128E-02
310	2228	.666E-03	392	2293	.128E-02	474	2293	.128E-02
312	2203	.514E-03	394	2293	.128E-02	476	2305	.143E-02
314	2228	.666E-03	396	2293	.128E-02	478	2293	.128E-02
316	2248	.819E-03	398	2293	.128E-02	480	2293	.128E-02
318	2248	.819E-03	400	2293	.128E-02	482	2305	.143E-02
320	2248	.819E-03	402	2305	.143E-02	484	2293	.128E-02
322	2265	.972E-03	404	2305	.143E-02	486	2293	.128E-02
324	2265	.972E-03	406	2305	.143E-02	488	2293	.128E-02
326	2265	.972E-03	408	2293	.128E-02	490	2293	.128E-02
328	2265	.972E-03	410	2293	.128E-02	492	2280	.113E-02

TABLE 11 (CONTINUED)

D=1.5mm λ=0.28μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
494	2280	.113E-02	576	2280	.113E-02	658	2228	.666E-03
496	2280	.113E-02	578	2280	.113E-02	660	2228	.666E-03
498	2280	.113E-02	580	2280	.113E-02	662	2228	.666E-03
500	2293	.128E-02	582	2280	.113E-02	664	2228	.666E-03
502	2293	.128E-02	584	2280	.113E-02	666	2228	.666E-03
504	2293	.128E-02	586	2280	.113E-02	668	2228	.666E-03
506	2305	.143E-02	588	2280	.113E-02	670	2203	.514E-03
508	2293	.128E-02	590	2280	.113E-02	672	2203	.514E-03
510	2293	.128E-02	592	2280	.113E-02	674	2203	.514E-03
512	2293	.128E-02	594	2280	.113E-02	676	2203	.514E-03
514	2293	.128E-02	596	2280	.113E-02	678	2203	.514E-03
516	2293	.128E-02	598	2280	.113E-02	680	2203	.514E-03
518	2293	.128E-02	600	2265	.972E-03	682	2203	.514E-03
520	2293	.128E-02	602	2280	.113E-02	684	2203	.514E-03
522	2305	.143E-02	604	2265	.972E-03	686	2171	.362E-03
524	2305	.143E-02	606	2265	.972E-03	688	2171	.362E-03
526	2293	.128E-02	608	2265	.972E-03	690	2171	.362E-03
528	2293	.128E-02	610	2265	.972E-03	692	2171	.362E-03
530	2293	.128E-02	612	2265	.972E-03	694	2171	.362E-03
532	2280	.113E-02	614	2265	.972E-03	696	2171	.362E-03
534	2293	.128E-02	616	2265	.972E-03	698	2171	.362E-03
536	2280	.113E-02	618	2265	.972E-03	700	2203	.514E-03
538	2280	.113E-02	620	2265	.972E-03	702	2171	.362E-03
540	2280	.113E-02	622	2265	.972E-03	704	2171	.362E-03
542	2293	.128E-02	624	2265	.972E-03	706	2171	.362E-03
544	2293	.128E-02	626	2265	.972E-03	708	2171	.362E-03
546	2293	.128E-02	628	2265	.972E-03	710	2171	.362E-03
548	2293	.128E-02	630	2265	.972E-03	712	2122	.211E-03
550	2280	.113E-02	632	2248	.819E-03	714	2122	.211E-03
552	2280	.113E-02	634	2265	.972E-03	716	2122	.211E-03
554	2293	.128E-02	636	2265	.972E-03	718	2122	.211E-03
556	2293	.128E-02	638	2248	.819E-03	720	2122	.211E-03
558	2280	.113E-02	640	2248	.819E-03	722	2171	.362E-03
560	2293	.128E-02	642	2265	.972E-03	724	2171	.362E-03
562	2293	.128E-02	644	2248	.819E-03	726	2122	.211E-03
564	2293	.128E-02	646	2248	.819E-03	728	2122	.211E-03
566	2293	.128E-02	648	2248	.819E-03	730	2122	.211E-03
568	2293	.128E-02	650	2248	.819E-03			
570	2280	.113E-02	652	2228	.666E-03			
572	2280	.113E-02	654	2228	.666E-03			
574	2280	.113E-02	656	2228	.666E-03			

TABLE 12

D=1.5mm λ=0.3μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
2	2583	.423E-01	88	2527	.281E-01	174	2363	.753E-02
4	2583	.423E-01	90	2521	.268E-01	176	2363	.753E-02
6	2583	.423E-01	92	2515	.256E-01	178	2363	.753E-02
8	2583	.423E-01	94	2512	.250E-01	180	2353	.686E-02
10	2583	.423E-01	96	2505	.237E-01	182	2353	.686E-02
12	2583	.423E-01	98	2501	.231E-01	184	2341	.619E-02
14	2583	.423E-01	100	2498	.225E-01	186	2341	.619E-02
16	2581	.417E-01	102	2494	.218E-01	188	2341	.619E-02
18	2581	.417E-01	104	2490	.212E-01	190	2341	.619E-02
20	2581	.417E-01	106	2490	.212E-01	192	2341	.619E-02
22	2581	.417E-01	108	2482	.199E-01	194	2328	.552E-02
24	2581	.417E-01	110	2478	.193E-01	196	2328	.552E-02
26	2581	.417E-01	112	2474	.187E-01	198	2328	.552E-02
28	2581	.417E-01	114	2470	.180E-01	200	2328	.552E-02
30	2583	.423E-01	116	2470	.180E-01	202	2313	.484E-02
32	2583	.423E-01	118	2460	.167E-01	204	2313	.484E-02
34	2583	.423E-01	120	2460	.167E-01	206	2313	.484E-02
36	2583	.423E-01	122	2450	.154E-01	208	2313	.484E-02
38	2581	.417E-01	124	2450	.154E-01	210	2313	.484E-02
40	2581	.417E-01	126	2445	.148E-01	212	2296	.416E-02
42	2581	.417E-01	128	2439	.141E-01	214	2296	.416E-02
44	2581	.417E-01	130	2439	.141E-01	216	2296	.416E-02
46	2581	.417E-01	132	2433	.135E-01	218	2296	.416E-02
48	2581	.417E-01	134	2427	.128E-01	220	2277	.348E-02
50	2581	.417E-01	136	2427	.128E-01	222	2277	.348E-02
52	2581	.417E-01	138	2421	.122E-01	224	2277	.348E-02
54	2581	.417E-01	140	2421	.122E-01	226	2277	.348E-02
56	2581	.417E-01	142	2414	.115E-01	228	2277	.348E-02
58	2581	.417E-01	144	2414	.115E-01	230	2277	.348E-02
60	2579	.412E-01	146	2414	.115E-01	232	2277	.348E-02
62	2579	.412E-01	148	2407	.109E-01	234	2277	.348E-02
64	2577	.406E-01	150	2407	.109E-01	236	2254	.280E-02
66	2573	.394E-01	152	2407	.109E-01	238	2277	.348E-02
68	2571	.388E-01	154	2399	.102E-01	240	2254	.280E-02
70	2567	.377E-01	156	2399	.102E-01	242	2254	.280E-02
72	2563	.365E-01	158	2391	.954E-02	244	2254	.280E-02
74	2558	.353E-01	160	2391	.954E-02	246	2254	.280E-02
76	2553	.341E-01	162	2383	.887E-02	248	2254	.280E-02
78	2546	.323E-01	164	2383	.887E-02	250	2254	.280E-02
80	2544	.317E-01	166	2373	.820E-02	252	2254	.280E-02
82	2541	.311E-01	168	2373	.820E-02	254	2254	.280E-02
84	2536	.299E-01	170	2373	.820E-02	256	2224	.212E-02
86	2530	.287E-01	172	2373	.820E-02	258	2224	.212E-02

TABLE 12 (CONTINUED)

D=1.5mm λ=0.3μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
260	2224	.212E-02	346	2254	.280E-02	432	2277	.348E-02
262	2224	.212E-02	348	2254	.280E-02	434	2254	.280E-02
264	2224	.212E-02	350	2254	.280E-02	436	2254	.280E-02
266	2224	.212E-02	352	2254	.280E-02	438	2254	.280E-02
268	2224	.212E-02	354	2254	.280E-02	440	2254	.280E-02
270	2224	.212E-02	356	2254	.280E-02	442	2254	.280E-02
272	2224	.212E-02	358	2254	.280E-02	444	2254	.280E-02
274	2224	.212E-02	360	2254	.280E-02	446	2254	.280E-02
276	2224	.212E-02	362	2254	.280E-02	448	2254	.280E-02
278	2224	.212E-02	364	2254	.280E-02	450	2254	.280E-02
280	2185	.144E-02	366	2254	.280E-02	452	2254	.280E-02
282	2185	.144E-02	368	2254	.280E-02	454	2254	.280E-02
284	2185	.144E-02	370	2254	.280E-02	456	2254	.280E-02
286	2185	.144E-02	372	2254	.280E-02	458	2254	.280E-02
288	2185	.144E-02	374	2254	.280E-02	460	2254	.280E-02
290	2185	.144E-02	376	2254	.280E-02	462	2254	.280E-02
292	2185	.144E-02	378	2254	.280E-02	464	2254	.280E-02
294	2185	.144E-02	380	2254	.280E-02	466	2254	.280E-02
296	2185	.144E-02	382	2254	.280E-02	468	2254	.280E-02
298	2185	.144E-02	384	2254	.280E-02	470	2277	.348E-02
300	2185	.144E-02	386	2254	.280E-02	472	2277	.348E-02
302	2185	.144E-02	388	2254	.280E-02	474	2254	.280E-02
304	2185	.144E-02	390	2277	.348E-02	476	2254	.280E-02
306	2185	.144E-02	392	2254	.280E-02	478	2254	.280E-02
308	2185	.144E-02	394	2254	.280E-02	480	2254	.280E-02
310	2185	.144E-02	396	2254	.280E-02	482	2254	.280E-02
312	2185	.144E-02	398	2254	.280E-02	484	2254	.280E-02
314	2185	.144E-02	400	2254	.280E-02	486	2254	.280E-02
316	2185	.144E-02	402	2254	.280E-02	488	2254	.280E-02
318	2185	.144E-02	404	2254	.280E-02	490	2254	.280E-02
320	2185	.144E-02	406	2254	.280E-02	492	2254	.280E-02
322	2185	.144E-02	408	2254	.280E-02	494	2254	.280E-02
324	2185	.144E-02	410	2254	.280E-02	496	2254	.280E-02
326	2224	.212E-02	412	2254	.280E-02	498	2254	.280E-02
328	2224	.212E-02	414	2254	.280E-02	500	2254	.280E-02
330	2224	.212E-02	416	2254	.280E-02	502	2254	.280E-02
332	2224	.212E-02	418	2254	.280E-02	504	2254	.280E-02
334	2254	.280E-02	420	2254	.280E-02	506	2254	.280E-02
336	2254	.280E-02	422	2254	.280E-02	508	2254	.280E-02
338	2254	.280E-02	424	2254	.280E-02	510	2254	.280E-02
340	2254	.280E-02	426	2254	.280E-02	512	2254	.280E-02
342	2254	.280E-02	428	2254	.280E-02	514	2277	.348E-02
344	2254	.280E-02	430	2277	.348E-02	516	2254	.280E-02

TABLE 12 (CONTINUED)

D=1.5mm λ=0.3μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
518	2254	.280E-02	604	2254	.280E-02	690	2224	.212E-02
520	2254	.280E-02	606	2254	.280E-02	692	2224	.212E-02
522	2254	.280E-02	608	2277	.348E-02	694	2224	.212E-02
524	2254	.280E-02	610	2277	.348E-02	696	2224	.212E-02
526	2254	.280E-02	612	2254	.280E-02	698	2224	.212E-02
528	2254	.280E-02	614	2254	.280E-02	700	2224	.212E-02
530	2277	.348E-02	616	2254	.280E-02	702	2224	.212E-02
532	2277	.348E-02	618	2254	.280E-02	704	2224	.212E-02
534	2254	.280E-02	620	2254	.280E-02	706	2224	.212E-02
536	2254	.280E-02	622	2254	.280E-02	708	2224	.212E-02
538	2254	.280E-02	624	2254	.280E-02	710	2224	.212E-02
540	2254	.280E-02	626	2254	.280E-02	712	2224	.212E-02
542	2254	.280E-02	628	2254	.280E-02	714	2224	.212E-02
544	2254	.280E-02	630	2254	.280E-02	716	2224	.212E-02
546	2254	.280E-02	632	2254	.280E-02	718	2185	.144E-02
548	2254	.280E-02	634	2254	.280E-02	720	2185	.144E-02
550	2254	.280E-02	636	2254	.280E-02	722	2185	.144E-02
552	2254	.280E-02	638	2254	.280E-02	724	2185	.144E-02
554	2254	.280E-02	640	2254	.280E-02	726	2224	.212E-02
556	2254	.280E-02	642	2254	.280E-02	728	2185	.144E-02
558	2254	.280E-02	644	2254	.280E-02	730	2185	.144E-02
560	2254	.280E-02	646	2254	.280E-02	732	2185	.144E-02
562	2254	.280E-02	648	2254	.280E-02	734	2185	.144E-02
564	2254	.280E-02	650	2254	.280E-02	736	2185	.144E-02
566	2254	.280E-02	652	2254	.280E-02	738	2185	.144E-02
568	2254	.280E-02	654	2254	.280E-02	740	2185	.144E-02
570	2254	.280E-02	656	2254	.280E-02	742	2122	.749E-03
572	2254	.280E-02	658	2254	.280E-02	744	2185	.144E-02
574	2277	.348E-02	660	2254	.280E-02	746	2185	.144E-02
576	2254	.280E-02	662	2254	.280E-02	748	2185	.144E-02
578	2254	.280E-02	664	2254	.280E-02	750	2185	.144E-02
580	2254	.280E-02	666	2254	.280E-02	752	2185	.144E-02
582	2254	.280E-02	668	2254	.280E-02	754	2185	.144E-02
584	2254	.280E-02	670	2254	.280E-02	756	2122	.749E-03
586	2277	.348E-02	672	2254	.280E-02	758	2185	.144E-02
588	2277	.348E-02	674	2254	.280E-02	760	2122	.749E-03
590	2277	.348E-02	676	2224	.212E-02	762	2122	.749E-03
592	2277	.348E-02	678	2224	.212E-02	764	2122	.749E-03
594	2254	.280E-02	680	2254	.280E-02	766	2122	.749E-03
596	2254	.280E-02	682	2224	.212E-02	768	2185	.144E-02
598	2254	.280E-02	684	2224	.212E-02	770	2122	.749E-03
600	2254	.280E-02	686	2254	.280E-02	772	2122	.749E-03
602	2254	.280E-02	688	2224	.212E-02	774	2122	.749E-03

TABLE 13

D=1.5mm λ=0.32μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
2	2529	.673E-01	108	2455	.394E-01	214	2297	.112E-01
4	2529	.673E-01	110	2452	.386E-01	216	2288	.103E-01
6	2529	.673E-01	112	2446	.369E-01	218	2288	.103E-01
8	2529	.673E-01	114	2443	.361E-01	220	2288	.103E-01
10	2530	.681E-01	116	2443	.361E-01	222	2288	.103E-01
12	2530	.681E-01	118	2437	.345E-01	224	2278	.949E-02
14	2530	.681E-01	120	2434	.336E-01	226	2278	.949E-02
16	2530	.681E-01	122	2431	.328E-01	228	2278	.949E-02
18	2530	.681E-01	124	2427	.320E-01	230	2267	.864E-02
20	2530	.681E-01	126	2424	.312E-01	232	2267	.864E-02
22	2530	.681E-01	128	2420	.304E-01	234	2267	.864E-02
24	2530	.681E-01	130	2417	.295E-01	236	2267	.864E-02
26	2530	.681E-01	132	2413	.287E-01	238	2255	.779E-02
28	2530	.681E-01	134	2409	.279E-01	240	2255	.779E-02
30	2530	.681E-01	136	2405	.271E-01	242	2255	.779E-02
32	2529	.673E-01	138	2405	.271E-01	244	2255	.779E-02
34	2529	.673E-01	140	2401	.262E-01	246	2242	.694E-02
36	2529	.673E-01	142	2401	.262E-01	248	2255	.779E-02
38	2529	.673E-01	144	2397	.254E-01	250	2242	.694E-02
40	2530	.681E-01	146	2393	.246E-01	252	2242	.694E-02
42	2529	.673E-01	148	2389	.237E-01	254	2242	.694E-02
44	2529	.673E-01	150	2384	.229E-01	256	2242	.694E-02
46	2530	.681E-01	152	2380	.221E-01	258	2242	.694E-02
48	2530	.681E-01	154	2375	.212E-01	260	2242	.694E-02
50	2530	.681E-01	156	2370	.204E-01	262	2242	.694E-02
52	2529	.673E-01	158	2364	.196E-01	264	2228	.609E-02
54	2529	.673E-01	160	2359	.187E-01	266	2242	.694E-02
56	2529	.673E-01	162	2359	.187E-01	268	2228	.609E-02
58	2529	.673E-01	164	2353	.179E-01	270	2228	.609E-02
60	2529	.673E-01	166	2348	.171E-01	272	2228	.609E-02
62	2529	.673E-01	168	2348	.171E-01	274	2228	.609E-02
64	2529	.673E-01	170	2341	.162E-01	276	2228	.609E-02
66	2529	.673E-01	172	2341	.162E-01	278	2211	.524E-02
68	2527	.665E-01	174	2335	.154E-01	280	2211	.524E-02
70	2525	.657E-01	176	2335	.154E-01	282	2211	.524E-02
72	2524	.650E-01	178	2328	.145E-01	284	2211	.524E-02
74	2522	.642E-01	180	2328	.145E-01	286	2211	.524E-02
76	2518	.626E-01	182	2328	.145E-01	288	2211	.524E-02
78	2515	.610E-01	184	2328	.145E-01	290	2211	.524E-02
80	2511	.594E-01	186	2328	.145E-01	292	2211	.524E-02
82	2507	.578E-01	188	2321	.137E-01	294	2211	.524E-02
84	2503	.563E-01	190	2321	.137E-01	296	2192	.439E-02
86	2499	.547E-01	192	2321	.137E-01	298	2192	.439E-02
88	2497	.539E-01	194	2313	.129E-01	300	2192	.439E-02
90	2495	.531E-01	196	2313	.129E-01	302	2192	.439E-02
92	2489	.507E-01	198	2313	.129E-01	304	2192	.439E-02
94	2485	.491E-01	200	2313	.129E-01	306	2192	.439E-02
96	2480	.475E-01	202	2313	.129E-01	308	2192	.439E-02
98	2475	.458E-01	204	2305	.120E-01	310	2192	.439E-02
100	2473	.450E-01	206	2305	.120E-01	312	2192	.439E-02
102	2465	.426E-01	208	2297	.112E-01	314	2192	.439E-02
104	2463	.418E-01	210	2297	.112E-01	316	2169	.354E-02
106	2460	.410E-01	212	2297	.112E-01	318	2169	.354E-02

TABLE 13 (CONTINUED)

D=1.5mm λ=0.32μm

t	T_D	B_λ	t	T_D	B_λ	t	T_D	B_λ
320	2169	.354E-02	426	2242	.694E-02	532	2242	.694E-02
322	2169	.354E-02	428	2242	.694E-02	534	2242	.694E-02
324	2169	.354E-02	430	2242	.694E-02	536	2242	.694E-02
326	2169	.354E-02	432	2242	.694E-02	538	2242	.694E-02
328	2169	.354E-02	434	2242	.694E-02	540	2242	.694E-02
330	2192	.439E-02	436	2242	.694E-02	542	2242	.694E-02
332	2169	.354E-02	438	2228	.609E-02	544	2242	.694E-02
334	2169	.354E-02	440	2242	.694E-02	546	2242	.694E-02
336	2192	.439E-02	442	2242	.694E-02	548	2242	.694E-02
338	2192	.439E-02	444	2242	.694E-02	550	2242	.694E-02
340	2192	.439E-02	446	2242	.694E-02	552	2242	.694E-02
342	2192	.439E-02	448	2242	.694E-02	554	2255	.779E-02
344	2192	.439E-02	450	2242	.694E-02	556	2242	.694E-02
346	2192	.439E-02	452	2228	.609E-02	558	2242	.694E-02
348	2211	.524E-02	454	2242	.694E-02	560	2242	.694E-02
350	2211	.524E-02	456	2242	.694E-02	562	2242	.694E-02
352	2211	.524E-02	458	2242	.694E-02	564	2242	.694E-02
354	2211	.524E-02	460	2228	.609E-02	566	2242	.694E-02
356	2211	.524E-02	462	2242	.694E-02	568	2242	.694E-02
358	2228	.609E-02	464	2242	.694E-02	570	2242	.694E-02
360	2228	.609E-02	466	2242	.694E-02	572	2242	.694E-02
362	2228	.609E-02	468	2242	.694E-02	574	2228	.609E-02
364	2228	.609E-02	470	2242	.694E-02	576	2228	.609E-02
366	2228	.609E-02	472	2242	.694E-02	578	2228	.609E-02
368	2228	.609E-02	474	2242	.694E-02	580	2242	.694E-02
370	2228	.609E-02	476	2242	.694E-02	582	2242	.694E-02
372	2228	.609E-02	478	2228	.609E-02	584	2242	.694E-02
374	2228	.609E-02	480	2242	.694E-02	586	2242	.694E-02
376	2228	.609E-02	482	2242	.694E-02	588	2242	.694E-02
378	2228	.609E-02	484	2242	.694E-02	590	2242	.694E-02
380	2228	.609E-02	486	2242	.694E-02	592	2242	.694E-02
382	2242	.694E-02	488	2242	.694E-02	594	2242	.694E-02
384	2242	.694E-02	490	2242	.694E-02	596	2242	.694E-02
386	2228	.609E-02	492	2242	.694E-02	598	2242	.694E-02
388	2242	.694E-02	494	2242	.694E-02	600	2242	.694E-02
390	2242	.694E-02	496	2242	.694E-02	602	2242	.694E-02
392	2242	.694E-02	498	2228	.609E-02	604	2242	.694E-02
394	2242	.694E-02	500	2242	.694E-02	606	2242	.694E-02
396	2242	.694E-02	502	2242	.694E-02	608	2242	.694E-02
398	2242	.694E-02	504	2242	.694E-02	610	2242	.694E-02
400	2242	.694E-02	506	2228	.609E-02	612	2242	.694E-02
402	2242	.694E-02	508	2228	.609E-02	614	2242	.694E-02
404	2242	.694E-02	510	2242	.694E-02	616	2242	.694E-02
406	2242	.694E-02	512	2228	.609E-02	618	2228	.609E-02
408	2242	.694E-02	514	2228	.609E-02	620	2228	.609E-02
410	2242	.694E-02	516	2228	.609E-02	622	2242	.694E-02
412	2242	.694E-02	518	2228	.609E-02	624	2242	.694E-02
414	2228	.609E-02	520	2228	.609E-02	626	2242	.694E-02
416	2228	.609E-02	522	2242	.694E-02	628	2242	.694E-02
418	2228	.609E-02	524	2242	.694E-02	630	2242	.694E-02
420	2228	.609E-02	526	2242	.694E-02	632	2242	.694E-02
422	2242	.694E-02	528	2242	.694E-02	634	2242	.694E-02
424	2242	.694E-02	530	2242	.694E-02	636	2242	.694E-02

TABLE 13 (CONTINUED)

D=1.5mm λ=0.32μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
638	2228	.609E-02	744	2211	.524E-02	850	2169	.354E-02
640	2242	.694E-02	746	2211	.524E-02	852	2169	.354E-02
642	2242	.694E-02	748	2211	.524E-02	854	2141	.269E-02
644	2242	.694E-02	750	2211	.524E-02	856	2169	.354E-02
646	2242	.694E-02	752	2192	.439E-02	858	2141	.269E-02
648	2242	.694E-02	754	2192	.439E-02	860	2141	.269E-02
650	2242	.694E-02	756	2192	.439E-02	862	2169	.354E-02
652	2242	.694E-02	758	2192	.439E-02	864	2169	.354E-02
654	2242	.694E-02	760	2211	.524E-02	866	2169	.354E-02
656	2242	.694E-02	762	2211	.524E-02	868	2169	.354E-02
658	2228	.609E-02	764	2211	.524E-02	870	2141	.269E-02
660	2228	.609E-02	766	2211	.524E-02	872	2141	.269E-02
662	2228	.609E-02	768	2192	.439E-02	874	2141	.269E-02
664	2228	.609E-02	770	2211	.524E-02	876	2141	.269E-02
666	2242	.694E-02	772	2211	.524E-02	878	2141	.269E-02
668	2242	.694E-02	774	2211	.524E-02	880	2141	.269E-02
670	2228	.609E-02	776	2211	.524E-02	882	2141	.269E-02
672	2228	.609E-02	778	2192	.439E-02	884	2141	.269E-02
674	2228	.609E-02	780	2192	.439E-02	886	2141	.269E-02
676	2228	.609E-02	782	2211	.524E-02	888	2141	.269E-02
678	2211	.524E-02	784	2211	.524E-02	890	2141	.269E-02
680	2228	.609E-02	786	2211	.524E-02	892	2141	.269E-02
682	2228	.609E-02	788	2192	.439E-02	894	2141	.269E-02
684	2228	.609E-02	790	2192	.439E-02	896	2141	.269E-02
686	2228	.609E-02	792	2192	.439E-02	898	2141	.269E-02
688	2228	.609E-02	794	2192	.439E-02	900	2141	.269E-02
690	2228	.609E-02	796	2192	.439E-02	902	2141	.269E-02
692	2228	.609E-02	798	2192	.439E-02	904	2141	.269E-02
694	2228	.609E-02	800	2192	.439E-02	906	2141	.269E-02
696	2228	.609E-02	802	2192	.439E-02	908	2141	.269E-02
698	2228	.609E-02	804	2192	.439E-02	910	2103	.183E-02
700	2228	.609E-02	806	2192	.439E-02	912	2103	.183E-02
702	2242	.694E-02	808	2192	.439E-02	914	2103	.183E-02
704	2228	.609E-02	810	2192	.439E-02	916	2103	.183E-02
706	2228	.609E-02	812	2192	.439E-02	918	2103	.183E-02
708	2228	.609E-02	814	2192	.439E-02	920	2103	.183E-02
710	2228	.609E-02	816	2192	.439E-02	922	2103	.183E-02
712	2228	.609E-02	818	2192	.439E-02	924	2103	.183E-02
714	2228	.609E-02	820	2192	.439E-02	926	2103	.183E-02
716	2228	.609E-02	822	2192	.439E-02	928	2103	.183E-02
718	2228	.609E-02	824	2192	.439E-02	930	2103	.183E-02
720	2228	.609E-02	826	2192	.439E-02	932	2103	.183E-02
722	2228	.609E-02	828	2192	.439E-02	934	2103	.183E-02
724	2228	.609E-02	830	2192	.439E-02	936	2103	.183E-02
726	2228	.609E-02	832	2169	.354E-02	938	2043	.980E-03
728	2228	.609E-02	834	2169	.354E-02	940	2103	.183E-02
730	2228	.609E-02	836	2169	.354E-02	942	2103	.183E-02
732	2211	.524E-02	838	2169	.354E-02	944	2103	.183E-02
734	2211	.524E-02	840	2169	.354E-02	946	2043	.980E-03
736	2211	.524E-02	842	2169	.354E-02	948	2043	.980E-03
738	2211	.524E-02	844	2169	.354E-02	950	2043	.980E-03
740	2211	.524E-02	846	2169	.354E-02	952	2043	.980E-03
742	2211	.524E-02	848	2169	.354E-02	954	2043	.980E-03

TABLE 14

D=1.5mm λ=0.35μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
2	2544	.218E+00	112	2443	.112E+00	222	2246	.255E-01
4	2547	.222E+00	114	2437	.107E+00	224	2246	.255E-01
6	2547	.222E+00	116	2424	.979E-01	226	2266	.299E-01
8	2547	.222E+00	118	2418	.937E-01	228	2246	.255E-01
10	2547	.222E+00	120	2418	.937E-01	230	2246	.255E-01
12	2547	.222E+00	122	2405	.857E-01	232	2246	.255E-01
14	2547	.222E+00	124	2398	.814E-01	234	2246	.255E-01
16	2544	.218E+00	126	2398	.814E-01	236	2226	.217E-01
18	2547	.222E+00	128	2398	.814E-01	238	2226	.217E-01
20	2547	.222E+00	130	2391	.774E-01	240	2226	.217E-01
22	2544	.218E+00	132	2384	.735E-01	242	2226	.217E-01
24	2547	.222E+00	134	2377	.698E-01	244	2226	.217E-01
26	2547	.222E+00	136	2370	.662E-01	246	2226	.217E-01
28	2547	.222E+00	138	2370	.662E-01	248	2226	.217E-01
30	2547	.222E+00	140	2370	.662E-01	250	2226	.217E-01
32	2547	.222E+00	142	2362	.629E-01	252	2226	.217E-01
34	2547	.222E+00	144	2362	.629E-01	254	2226	.217E-01
36	2544	.218E+00	146	2355	.596E-01	256	2226	.217E-01
38	2547	.222E+00	148	2355	.596E-01	258	2206	.184E-01
40	2547	.222E+00	150	2355	.596E-01	260	2206	.184E-01
42	2544	.218E+00	152	2348	.565E-01	262	2206	.184E-01
44	2544	.218E+00	154	2348	.565E-01	264	2206	.184E-01
46	2547	.222E+00	156	2341	.536E-01	266	2226	.217E-01
48	2547	.222E+00	158	2341	.536E-01	268	2206	.184E-01
50	2547	.222E+00	160	2334	.508E-01	270	2206	.184E-01
52	2547	.222E+00	162	2327	.481E-01	272	2206	.184E-01
54	2547	.222E+00	164	2334	.508E-01	274	2206	.184E-01
56	2544	.218E+00	166	2334	.508E-01	276	2206	.184E-01
58	2547	.222E+00	168	2327	.481E-01	278	2206	.184E-01
60	2544	.218E+00	170	2327	.481E-01	280	2206	.184E-01
62	2544	.218E+00	172	2319	.455E-01	282	2140	.103E-01
64	2544	.218E+00	174	2319	.455E-01	284	2206	.184E-01
66	2544	.218E+00	176	2319	.455E-01	286	2206	.184E-01
68	2542	.214E+00	178	2312	.431E-01	288	2206	.184E-01
70	2542	.214E+00	180	2312	.431E-01	290	2206	.184E-01
72	2539	.211E+00	182	2305	.408E-01	292	2206	.184E-01
74	2536	.207E+00	184	2312	.431E-01	294	2206	.184E-01
76	2536	.207E+00	186	2312	.431E-01	296	2140	.103E-01
78	2531	.200E+00	188	2312	.431E-01	298	2206	.184E-01
80	2528	.196E+00	190	2305	.408E-01	300	2206	.184E-01
82	2525	.193E+00	192	2305	.408E-01	302	2140	.103E-01
84	2522	.189E+00	194	2305	.408E-01	304	2206	.184E-01
86	2520	.186E+00	196	2285	.350E-01	306	2206	.184E-01
88	2517	.183E+00	198	2285	.350E-01	308	2226	.217E-01
90	2511	.176E+00	200	2285	.350E-01	310	2226	.217E-01
92	2509	.173E+00	202	2266	.299E-01	312	2226	.217E-01
94	2500	.163E+00	204	2266	.299E-01	314	2226	.217E-01
96	2493	.157E+00	206	2285	.350E-01	316	2246	.255E-01
98	2487	.150E+00	208	2285	.350E-01	318	2246	.255E-01
100	2474	.138E+00	210	2266	.299E-01	320	2246	.255E-01
102	2468	.132E+00	212	2266	.299E-01	322	2226	.217E-01
104	2468	.132E+00	214	2266	.299E-01	324	2246	.255E-01
106	2462	.127E+00	216	2266	.299E-01	326	2246	.255E-01
108	2456	.122E+00	218	2246	.255E-01	328	2246	.255E-01
110	2449	.117E+00	220	2246	.255E-01	330	2246	.255E-01

TABLE 14 (CONTINUED)

D=1.5mm λ=0.35μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
332	2246	.255E-01	442	2246	.255E-01	552	2226	.217E-01
334	2246	.255E-01	444	2246	.255E-01	554	2226	.217E-01
336	2246	.255E-01	446	2246	.255E-01	556	2206	.184E-01
338	2246	.255E-01	448	2246	.255E-01	558	2226	.217E-01
340	2246	.255E-01	450	2246	.255E-01	560	2206	.184E-01
342	2226	.217E-01	452	2246	.255E-01	562	2206	.184E-01
344	2246	.255E-01	454	2246	.255E-01	564	2206	.184E-01
346	2266	.299E-01	456	2246	.255E-01	566	2226	.217E-01
348	2246	.255E-01	458	2246	.255E-01	568	2226	.217E-01
350	2246	.255E-01	460	2246	.255E-01	570	2206	.184E-01
352	2246	.255E-01	462	2226	.217E-01	572	2206	.184E-01
354	2246	.255E-01	464	2246	.255E-01	574	2206	.184E-01
356	2246	.255E-01	466	2246	.255E-01	576	2206	.184E-01
358	2246	.255E-01	468	2246	.255E-01	578	2206	.184E-01
360	2246	.255E-01	470	2246	.255E-01	580	2206	.184E-01
362	2246	.255E-01	472	2246	.255E-01	582	2140	.103E-01
364	2246	.255E-01	474	2246	.255E-01	584	2206	.184E-01
366	2266	.299E-01	476	2246	.255E-01	586	2206	.184E-01
368	2266	.299E-01	478	2246	.255E-01	588	2206	.184E-01
370	2246	.255E-01	480	2246	.255E-01	590	2206	.184E-01
372	2246	.255E-01	482	2226	.217E-01	592	2206	.184E-01
374	2246	.255E-01	484	2246	.255E-01	594	2206	.184E-01
376	2246	.255E-01	486	2246	.255E-01	596	2206	.184E-01
378	2246	.255E-01	488	2246	.255E-01	598	2206	.184E-01
380	2246	.255E-01	490	2246	.255E-01	600	2140	.103E-01
382	2226	.217E-01	492	2246	.255E-01	602	2140	.103E-01
384	2246	.255E-01	494	2246	.255E-01	604	2140	.103E-01
386	2246	.255E-01	496	2246	.255E-01	606	2206	.184E-01
388	2266	.299E-01	498	2246	.255E-01	608	2206	.184E-01
390	2246	.255E-01	500	2246	.255E-01	610	2206	.184E-01
392	2246	.255E-01	502	2226	.217E-01	612	2206	.184E-01
394	2246	.255E-01	504	2246	.255E-01	614	2206	.184E-01
396	2246	.255E-01	506	2246	.255E-01	616	2140	.103E-01
398	2246	.255E-01	508	2246	.255E-01	618	2140	.103E-01
400	2246	.255E-01	510	2246	.255E-01	620	2140	.103E-01
402	2226	.217E-01	512	2246	.255E-01	622	2140	.103E-01
404	2246	.255E-01	514	2246	.255E-01	624	2140	.103E-01
406	2266	.299E-01	516	2226	.217E-01	626	2140	.103E-01
408	2266	.299E-01	518	2226	.217E-01	628	2140	.103E-01
410	2246	.255E-01	520	2226	.217E-01	630	2140	.103E-01
412	2246	.255E-01	522	2226	.217E-01	632	2140	.103E-01
414	2246	.255E-01	524	2226	.217E-01	634	2140	.103E-01
416	2246	.255E-01	526	2226	.217E-01	636	2140	.103E-01
418	2246	.255E-01	528	2226	.217E-01	638	2140	.103E-01
420	2246	.255E-01	530	2226	.217E-01	640	2140	.103E-01
422	2246	.255E-01	532	2226	.217E-01	642	2074	.561E-02
424	2246	.255E-01	534	2226	.217E-01	644	2140	.103E-01
426	2246	.255E-01	536	2226	.217E-01	646	2140	.103E-01
428	2246	.255E-01	538	2226	.217E-01	648	2140	.103E-01
430	2246	.255E-01	540	2226	.217E-01	650	2140	.103E-01
432	2246	.255E-01	542	2206	.184E-01	652	2140	.103E-01
434	2246	.255E-01	544	2226	.217E-01	654	2140	.103E-01
436	2246	.255E-01	546	2226	.217E-01	656	2074	.561E-02
438	2246	.255E-01	548	2226	.217E-01	658	2140	.103E-01
440	2246	.255E-01	550	2226	.217E-01			

TABLE 15

D=1.5mm λ=0.4μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
2	2541	.827E+00	86	2513	.705E+00	170	2326	.223E+00
4	2541	.827E+00	88	2507	.685E+00	172	2319	.213E+00
6	2541	.827E+00	90	2502	.665E+00	174	2319	.213E+00
8	2541	.827E+00	92	2500	.655E+00	176	2312	.204E+00
10	2541	.827E+00	94	2495	.636E+00	178	2312	.204E+00
12	2541	.827E+00	96	2492	.626E+00	180	2305	.194E+00
14	2543	.839E+00	98	2485	.600E+00	182	2305	.194E+00
16	2541	.827E+00	100	2480	.583E+00	184	2305	.194E+00
18	2541	.827E+00	102	2475	.567E+00	186	2298	.186E+00
20	2541	.827E+00	104	2470	.551E+00	188	2298	.186E+00
22	2541	.827E+00	106	2460	.520E+00	190	2298	.186E+00
24	2541	.827E+00	108	2460	.520E+00	192	2298	.186E+00
26	2541	.827E+00	110	2451	.491E+00	194	2298	.186E+00
28	2541	.827E+00	112	2446	.477E+00	196	2291	.177E+00
30	2541	.827E+00	114	2441	.464E+00	198	2291	.177E+00
32	2541	.827E+00	116	2436	.450E+00	200	2281	.164E+00
34	2541	.827E+00	118	2431	.437E+00	202	2281	.164E+00
36	2541	.827E+00	120	2427	.424E+00	204	2281	.164E+00
38	2541	.827E+00	122	2422	.412E+00	206	2270	.153E+00
40	2541	.827E+00	124	2417	.400E+00	208	2281	.164E+00
42	2541	.827E+00	126	2412	.388E+00	210	2270	.153E+00
44	2541	.827E+00	128	2412	.388E+00	212	2270	.153E+00
46	2541	.827E+00	130	2407	.377E+00	214	2270	.153E+00
48	2541	.827E+00	132	2402	.366E+00	216	2270	.153E+00
50	2541	.827E+00	134	2398	.355E+00	218	2270	.153E+00
52	2541	.827E+00	136	2398	.355E+00	220	2259	.141E+00
54	2541	.827E+00	138	2393	.344E+00	222	2259	.141E+00
56	2541	.827E+00	140	2387	.332E+00	224	2259	.141E+00
58	2541	.827E+00	142	2380	.318E+00	226	2248	.131E+00
60	2541	.827E+00	144	2373	.304E+00	228	2259	.141E+00
62	2541	.827E+00	146	2366	.291E+00	230	2248	.131E+00
64	2541	.827E+00	148	2366	.291E+00	232	2248	.131E+00
66	2538	.815E+00	150	2366	.291E+00	234	2248	.131E+00
68	2538	.815E+00	152	2360	.279E+00	236	2248	.131E+00
70	2538	.815E+00	154	2353	.267E+00	238	2248	.131E+00
72	2536	.804E+00	156	2353	.267E+00	240	2237	.121E+00
74	2533	.792E+00	158	2346	.255E+00	242	2237	.121E+00
76	2531	.781E+00	160	2339	.244E+00	244	2237	.121E+00
78	2528	.769E+00	162	2332	.233E+00	246	2237	.121E+00
80	2523	.747E+00	164	2332	.233E+00	248	2237	.121E+00
82	2520	.737E+00	166	2326	.223E+00	250	2237	.121E+00
84	2518	.726E+00	168	2326	.223E+00	252	2227	.112E+00

TABLE 15 (CONTINUED)

D=1.5mm λ=0.4μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
254	2227	.112E+00	338	2248	.131E+00	422	2248	.131E+00
256	2237	.121E+00	340	2237	.121E+00	424	2248	.131E+00
258	2227	.112E+00	342	2248	.131E+00	426	2248	.131E+00
260	2227	.112E+00	344	2248	.131E+00	428	2248	.131E+00
262	2227	.112E+00	346	2237	.121E+00	430	2248	.131E+00
264	2216	.104E+00	348	2248	.131E+00	432	2248	.131E+00
266	2216	.104E+00	350	2248	.131E+00	434	2248	.131E+00
268	2216	.104E+00	352	2248	.131E+00	436	2248	.131E+00
270	2216	.104E+00	354	2248	.131E+00	438	2248	.131E+00
272	2216	.104E+00	356	2248	.131E+00	440	2248	.131E+00
274	2216	.104E+00	358	2248	.131E+00	442	2248	.131E+00
276	2216	.104E+00	360	2248	.131E+00	444	2248	.131E+00
278	2216	.104E+00	362	2248	.131E+00	446	2248	.131E+00
280	2216	.104E+00	364	2248	.131E+00	448	2248	.131E+00
282	2216	.104E+00	366	2248	.131E+00	450	2248	.131E+00
284	2205	.956E-01	368	2248	.131E+00	452	2248	.131E+00
286	2205	.956E-01	370	2248	.131E+00	454	2248	.131E+00
288	2205	.956E-01	372	2248	.131E+00	456	2248	.131E+00
290	2205	.956E-01	374	2248	.131E+00	458	2248	.131E+00
292	2205	.956E-01	376	2248	.131E+00	460	2248	.131E+00
294	2205	.956E-01	378	2248	.131E+00	462	2248	.131E+00
296	2205	.956E-01	380	2248	.131E+00	464	2248	.131E+00
298	2205	.956E-01	382	2248	.131E+00	466	2248	.131E+00
300	2194	.882E-01	384	2248	.131E+00	468	2248	.131E+00
302	2205	.956E-01	386	2248	.131E+00	470	2248	.131E+00
304	2194	.882E-01	388	2248	.131E+00	472	2248	.131E+00
306	2194	.882E-01	390	2248	.131E+00	474	2248	.131E+00
308	2205	.956E-01	392	2248	.131E+00	476	2248	.131E+00
310	2205	.956E-01	394	2248	.131E+00	478	2248	.131E+00
312	2205	.956E-01	396	2248	.131E+00	480	2248	.131E+00
314	2205	.956E-01	398	2248	.131E+00	482	2248	.131E+00
316	2205	.956E-01	400	2248	.131E+00	484	2248	.131E+00
318	2216	.104E+00	402	2248	.131E+00	486	2237	.121E+00
320	2216	.104E+00	404	2248	.131E+00	488	2248	.131E+00
322	2227	.112E+00	406	2248	.131E+00	490	2248	.131E+00
324	2227	.112E+00	408	2248	.131E+00	492	2248	.131E+00
326	2227	.112E+00	410	2248	.131E+00	494	2248	.131E+00
328	2237	.121E+00	412	2248	.131E+00	496	2248	.131E+00
330	2237	.121E+00	414	2248	.131E+00	498	2248	.131E+00
332	2237	.121E+00	416	2248	.131E+00	500	2248	.131E+00
334	2248	.131E+00	418	2248	.131E+00	502	2248	.131E+00
336	2248	.131E+00	420	2248	.131E+00	504	2248	.131E+00

TABLE 15 (CONTINUED)

D=1.5mm λ=0.4μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
506	2237	.121E+00	590	2216	.104E+00	674	2168	.724E-01
508	2248	.131E+00	592	2227	.112E+00	676	2168	.724E-01
510	2248	.131E+00	594	2227	.112E+00	678	2142	.591E-01
512	2248	.131E+00	596	2227	.112E+00	680	2142	.591E-01
514	2248	.131E+00	598	2216	.104E+00	682	2142	.591E-01
516	2248	.131E+00	600	2216	.104E+00	684	2142	.591E-01
518	2248	.131E+00	602	2216	.104E+00	686	2142	.591E-01
520	2237	.121E+00	604	2216	.104E+00	688	2142	.591E-01
522	2237	.121E+00	606	2205	.956E-01	690	2142	.591E-01
524	2237	.121E+00	608	2216	.104E+00	692	2142	.591E-01
526	2237	.121E+00	610	2216	.104E+00	694	2142	.591E-01
528	2237	.121E+00	612	2216	.104E+00	696	2142	.591E-01
530	2248	.131E+00	614	2216	.104E+00	698	2116	.480E-01
532	2237	.121E+00	616	2216	.104E+00	700	2116	.480E-01
534	2237	.121E+00	618	2205	.956E-01	702	2116	.480E-01
536	2237	.121E+00	620	2205	.956E-01	704	2116	.480E-01
538	2237	.121E+00	622	2205	.956E-01	706	2116	.480E-01
540	2237	.121E+00	624	2205	.956E-01	708	2116	.480E-01
542	2237	.121E+00	626	2194	.882E-01	710	2116	.480E-01
544	2237	.121E+00	628	2205	.956E-01	712	2116	.480E-01
546	2237	.121E+00	630	2205	.956E-01	714	2116	.480E-01
548	2237	.121E+00	632	2205	.956E-01	716	2116	.480E-01
550	2237	.121E+00	634	2194	.882E-01	718	2116	.480E-01
552	2237	.121E+00	636	2194	.882E-01	720	2088	.385E-01
554	2237	.121E+00	638	2194	.882E-01	722	2088	.385E-01
556	2237	.121E+00	640	2194	.882E-01	724	2088	.385E-01
558	2237	.121E+00	642	2194	.882E-01	726	2088	.385E-01
560	2237	.121E+00	644	2194	.882E-01	728	2088	.385E-01
562	2237	.121E+00	646	2194	.882E-01	730	2088	.385E-01
564	2227	.112E+00	648	2168	.724E-01	732	2088	.385E-01
566	2227	.112E+00	650	2194	.882E-01	734	2088	.385E-01
568	2227	.112E+00	652	2168	.724E-01	736	2088	.385E-01
570	2237	.121E+00	654	2194	.882E-01	738	2088	.385E-01
572	2227	.112E+00	656	2168	.724E-01	740	2058	.300E-01
574	2227	.112E+00	658	2194	.882E-01	742	2088	.385E-01
576	2227	.112E+00	660	2168	.724E-01	744	2058	.300E-01
578	2227	.112E+00	662	2168	.724E-01	746	2058	.300E-01
580	2227	.112E+00	664	2168	.724E-01			
582	2227	.112E+00	666	2168	.724E-01			
584	2227	.112E+00	668	2168	.724E-01			
586	2216	.104E+00	670	2168	.724E-01			
588	2227	.112E+00	672	2142	.591E-01			

TABLE 16

D=1.5mm λ=0.5μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
2	2535	.447E+01	92	2473	.338E+01	182	2305	.144E+01
4	2535	.447E+01	94	2467	.327E+01	184	2297	.138E+01
6	2535	.447E+01	96	2463	.322E+01	186	2297	.138E+01
8	2531	.440E+01	98	2460	.316E+01	188	2290	.133E+01
10	2535	.447E+01	100	2456	.311E+01	190	2290	.133E+01
12	2535	.447E+01	102	2449	.300E+01	192	2290	.133E+01
14	2535	.447E+01	104	2449	.300E+01	194	2290	.133E+01
16	2535	.447E+01	106	2443	.293E+01	196	2290	.133E+01
18	2535	.447E+01	108	2433	.278E+01	198	2282	.127E+01
20	2535	.447E+01	110	2433	.278E+01	200	2282	.127E+01
22	2535	.447E+01	112	2427	.271E+01	202	2274	.122E+01
24	2535	.447E+01	114	2422	.264E+01	204	2274	.122E+01
26	2535	.447E+01	116	2417	.257E+01	206	2274	.122E+01
28	2535	.447E+01	118	2411	.250E+01	208	2267	.117E+01
30	2535	.447E+01	120	2411	.250E+01	210	2267	.117E+01
32	2535	.447E+01	122	2406	.244E+01	212	2267	.117E+01
34	2535	.447E+01	124	2401	.237E+01	214	2267	.117E+01
36	2535	.447E+01	126	2395	.231E+01	216	2267	.117E+01
38	2535	.447E+01	128	2390	.225E+01	218	2267	.117E+01
40	2535	.447E+01	130	2384	.219E+01	220	2259	.112E+01
42	2535	.447E+01	132	2384	.219E+01	222	2259	.112E+01
44	2535	.447E+01	134	2379	.213E+01	224	2259	.112E+01
46	2535	.447E+01	136	2374	.207E+01	226	2259	.112E+01
48	2535	.447E+01	138	2374	.207E+01	228	2248	.105E+01
50	2535	.447E+01	140	2368	.201E+01	230	2248	.105E+01
52	2535	.447E+01	142	2368	.201E+01	232	2248	.105E+01
54	2535	.447E+01	144	2363	.196E+01	234	2248	.105E+01
56	2535	.447E+01	146	2358	.191E+01	236	2248	.105E+01
58	2535	.447E+01	148	2358	.191E+01	238	2248	.105E+01
60	2535	.447E+01	150	2358	.191E+01	240	2237	.986E+00
62	2535	.447E+01	152	2351	.184E+01	242	2237	.986E+00
64	2531	.440E+01	154	2351	.184E+01	244	2237	.986E+00
66	2528	.434E+01	156	2351	.184E+01	246	2237	.986E+00
68	2524	.427E+01	158	2343	.177E+01	248	2237	.986E+00
70	2521	.421E+01	160	2343	.177E+01	250	2237	.986E+00
72	2518	.414E+01	162	2336	.170E+01	252	2237	.986E+00
74	2514	.408E+01	164	2336	.170E+01	254	2237	.986E+00
76	2511	.402E+01	166	2328	.163E+01	256	2237	.986E+00
78	2504	.389E+01	168	2320	.157E+01	258	2237	.986E+00
80	2504	.389E+01	170	2320	.157E+01	260	2226	.925E+00
82	2497	.377E+01	172	2320	.157E+01	262	2226	.925E+00
84	2490	.366E+01	174	2313	.150E+01	264	2226	.925E+00
86	2487	.360E+01	176	2313	.150E+01	266	2226	.925E+00
88	2480	.349E+01	178	2313	.150E+01	268	2226	.925E+00
90	2477	.343E+01	180	2305	.144E+01	270	2226	.925E+00

TABLE 16 (CONTINUED)

D=1.5mm λ=0.5μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
272	2226	.925E+00	362	2259	.112E+01	452	2248	.105E+01
274	2226	.925E+00	364	2259	.112E+01	454	2248	.105E+01
276	2226	.925E+00	366	2259	.112E+01	456	2248	.105E+01
278	2215	.867E+00	368	2248	.105E+01	458	2248	.105E+01
280	2215	.867E+00	370	2259	.112E+01	460	2248	.105E+01
282	2215	.867E+00	372	2259	.112E+01	462	2248	.105E+01
284	2215	.867E+00	374	2259	.112E+01	464	2237	.986E+00
286	2215	.867E+00	376	2259	.112E+01	466	2237	.986E+00
288	2215	.867E+00	378	2259	.112E+01	468	2237	.986E+00
290	2215	.867E+00	380	2259	.112E+01	470	2237	.986E+00
292	2215	.867E+00	382	2259	.112E+01	472	2237	.986E+00
294	2215	.867E+00	384	2259	.112E+01	474	2248	.105E+01
296	2215	.867E+00	386	2259	.112E+01	476	2237	.986E+00
298	2215	.867E+00	388	2248	.105E+01	478	2237	.986E+00
300	2215	.867E+00	390	2259	.112E+01	480	2237	.986E+00
302	2215	.867E+00	392	2259	.112E+01	482	2237	.986E+00
304	2215	.867E+00	394	2259	.112E+01	484	2237	.986E+00
306	2226	.925E+00	396	2259	.112E+01	486	2237	.986E+00
308	2226	.925E+00	398	2259	.112E+01	488	2237	.986E+00
310	2226	.925E+00	400	2259	.112E+01	490	2237	.986E+00
312	2237	.986E+00	402	2259	.112E+01	492	2237	.986E+00
314	2237	.986E+00	404	2259	.112E+01	494	2237	.986E+00
316	2237	.986E+00	406	2248	.105E+01	496	2237	.986E+00
318	2248	.105E+01	408	2248	.105E+01	498	2237	.986E+00
320	2248	.105E+01	410	2248	.105E+01	500	2237	.986E+00
322	2248	.105E+01	412	2259	.112E+01	502	2226	.925E+00
324	2248	.105E+01	414	2259	.112E+01	504	2237	.986E+00
326	2259	.112E+01	416	2259	.112E+01	506	2226	.925E+00
328	2248	.105E+01	418	2259	.112E+01	508	2226	.925E+00
330	2259	.112E+01	420	2259	.112E+01	510	2226	.925E+00
332	2259	.112E+01	422	2248	.105E+01	512	2226	.925E+00
334	2259	.112E+01	424	2248	.105E+01	514	2226	.925E+00
336	2259	.112E+01	426	2259	.112E+01	516	2226	.925E+00
338	2259	.112E+01	428	2248	.105E+01	518	2226	.925E+00
340	2259	.112E+01	430	2248	.105E+01	520	2226	.925E+00
342	2259	.112E+01	432	2259	.112E+01	522	2215	.867E+00
344	2259	.112E+01	434	2248	.105E+01	524	2215	.867E+00
346	2259	.112E+01	436	2259	.112E+01	526	2215	.867E+00
348	2259	.112E+01	438	2248	.105E+01	528	2215	.867E+00
350	2259	.112E+01	440	2248	.105E+01	530	2215	.867E+00
352	2259	.112E+01	442	2248	.105E+01	532	2215	.867E+00
354	2259	.112E+01	444	2248	.105E+01	534	2215	.867E+00
356	2259	.112E+01	446	2248	.105E+01	536	2215	.867E+00
358	2259	.112E+01	448	2248	.105E+01	538	2215	.867E+00
360	2259	.112E+01	450	2248	.105E+01	540	2215	.867E+00

TABLE 16 (CONTINUED)

D=1.5mm λ=0.5μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
542	2215	.867E+00	632	2154	.601E+00	722	2069	.348E+00
544	2215	.867E+00	634	2154	.601E+00	724	2069	.348E+00
546	2203	.812E+00	636	2154	.601E+00	726	2050	.306E+00
548	2203	.812E+00	638	2154	.601E+00	728	2050	.306E+00
550	2203	.812E+00	640	2154	.601E+00	730	2050	.306E+00
552	2215	.867E+00	642	2133	.526E+00	732	2050	.306E+00
554	2203	.812E+00	644	2133	.526E+00	734	2069	.348E+00
556	2203	.812E+00	646	2133	.526E+00	736	2050	.306E+00
558	2203	.812E+00	648	2133	.526E+00	738	2050	.306E+00
560	2203	.812E+00	650	2133	.526E+00	740	2050	.306E+00
562	2203	.812E+00	652	2133	.526E+00	742	2050	.306E+00
564	2203	.812E+00	654	2133	.526E+00	744	2050	.306E+00
566	2203	.812E+00	656	2133	.526E+00	746	2050	.306E+00
568	2192	.760E+00	658	2133	.526E+00	748	2031	.268E+00
570	2192	.760E+00	660	2133	.526E+00	750	2031	.268E+00
572	2192	.760E+00	662	2112	.460E+00	752	2050	.306E+00
574	2192	.760E+00	664	2112	.460E+00	754	2031	.268E+00
576	2192	.760E+00	666	2112	.460E+00	756	2031	.268E+00
578	2192	.760E+00	668	2112	.460E+00	758	2031	.268E+00
580	2192	.760E+00	670	2112	.460E+00	760	2031	.268E+00
582	2192	.760E+00	672	2112	.460E+00	762	2031	.268E+00
584	2192	.760E+00	674	2112	.460E+00	764	2031	.268E+00
586	2192	.760E+00	676	2112	.460E+00	766	2031	.268E+00
588	2181	.710E+00	678	2112	.460E+00	768	2031	.268E+00
590	2181	.710E+00	680	2112	.460E+00	770	2031	.268E+00
592	2181	.710E+00	682	2112	.460E+00	772	2031	.268E+00
594	2181	.710E+00	684	2112	.460E+00	774	2031	.268E+00
596	2181	.710E+00	686	2112	.460E+00	776	2031	.268E+00
598	2181	.710E+00	688	2090	.400E+00	778	2031	.268E+00
600	2181	.710E+00	690	2090	.400E+00	780	2031	.268E+00
602	2181	.710E+00	692	2090	.400E+00	782	2012	.234E+00
604	2170	.664E+00	694	2090	.400E+00	784	2012	.234E+00
606	2170	.664E+00	696	2090	.400E+00	786	2012	.234E+00
608	2170	.664E+00	698	2090	.400E+00	788	2012	.234E+00
610	2170	.664E+00	700	2090	.400E+00	790	2012	.234E+00
612	2170	.664E+00	702	2090	.400E+00	792	2012	.234E+00
614	2170	.664E+00	704	2090	.400E+00	794	2012	.234E+00
616	2170	.664E+00	706	2090	.400E+00	796	2012	.234E+00
618	2170	.664E+00	708	2069	.348E+00	798	2012	.234E+00
620	2170	.664E+00	710	2069	.348E+00			
622	2154	.601E+00	712	2090	.400E+00			
624	2154	.601E+00	714	2069	.348E+00			
626	2154	.601E+00	716	2069	.348E+00			
628	2154	.601E+00	718	2069	.348E+00			
630	2154	.601E+00	720	2069	.348E+00			

TÀBLE 17

D=1.5mm λ=0.7μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	$B\lambda$
2	2560	.231E+02	88	2463	.168E+02	174	2306	.954E+01
4	2560	.231E+02	90	2458	.166E+02	176	2306	.954E+01
6	2563	.233E+02	92	2454	.163E+02	178	2306	.954E+01
8	2557	.229E+02	94	2444	.158E+02	180	2298	.923E+01
10	2560	.231E+02	96	2444	.158E+02	182	2289	.892E+01
12	2560	.231E+02	98	2439	.155E+02	184	2298	.923E+01
14	2563	.233E+02	100	2429	.150E+02	186	2289	.892E+01
16	2560	.231E+02	102	2424	.147E+02	188	2289	.892E+01
18	2560	.231E+02	104	2424	.147E+02	190	2280	.861E+01
20	2560	.231E+02	106	2419	.145E+02	192	2289	.892E+01
22	2563	.233E+02	108	2413	.142E+02	194	2289	.892E+01
24	2563	.233E+02	110	2413	.142E+02	196	2289	.892E+01
26	2557	.229E+02	112	2402	.136E+02	198	2280	.861E+01
28	2557	.229E+02	114	2402	.136E+02	200	2280	.861E+01
30	2563	.233E+02	116	2402	.136E+02	202	2270	.829E+01
32	2563	.233E+02	118	2396	.134E+02	204	2270	.829E+01
34	2563	.233E+02	120	2391	.131E+02	206	2270	.829E+01
36	2560	.231E+02	122	2378	.125E+02	208	2270	.829E+01
38	2557	.229E+02	124	2378	.125E+02	210	2270	.829E+01
40	2560	.231E+02	126	2378	.125E+02	212	2270	.829E+01
42	2560	.231E+02	128	2378	.125E+02	214	2270	.829E+01
44	2560	.231E+02	130	2372	.122E+02	216	2270	.829E+01
46	2560	.231E+02	132	2365	.119E+02	218	2261	.798E+01
48	2560	.231E+02	134	2365	.119E+02	220	2261	.798E+01
50	2560	.231E+02	136	2359	.116E+02	222	2261	.798E+01
52	2560	.231E+02	138	2359	.116E+02	224	2261	.798E+01
54	2560	.231E+02	140	2352	.113E+02	226	2251	.766E+01
56	2563	.233E+02	142	2352	.113E+02	228	2261	.798E+01
58	2555	.227E+02	144	2345	.110E+02	230	2261	.798E+01
60	2555	.227E+02	146	2352	.113E+02	232	2251	.766E+01
62	2549	.223E+02	148	2345	.110E+02	234	2251	.766E+01
64	2540	.217E+02	150	2337	.107E+02	236	2251	.766E+01
66	2534	.213E+02	152	2337	.107E+02	238	2251	.766E+01
68	2531	.211E+02	154	2330	.104E+02	240	2251	.766E+01
70	2521	.204E+02	156	2330	.104E+02	242	2251	.766E+01
72	2514	.199E+02	158	2330	.104E+02	244	2240	.734E+01
74	2507	.195E+02	160	2322	.101E+02	246	2240	.734E+01
76	2500	.190E+02	162	2314	.984E+01	248	2251	.766E+01
78	2492	.185E+02	164	2322	.101E+02	250	2251	.766E+01
80	2488	.183E+02	166	2314	.984E+01	252	2251	.766E+01
82	2480	.178E+02	168	2314	.984E+01	254	2240	.734E+01
84	2471	.173E+02	170	2314	.984E+01	256	2251	.766E+01
86	2467	.171E+02	172	2314	.984E+01	258	2240	.734E+01

TABLE 17 (CONTINUED)

D=1.5mm λ=0.7μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
260	2240	.734E+01	346	2261	.798E+01	432	2194	.604E+01
262	2240	.734E+01	348	2261	.798E+01	434	2194	.604E+01
264	2240	.734E+01	350	2270	.829E+01	436	2206	.637E+01
266	2240	.734E+01	352	2261	.798E+01	438	2194	.604E+01
268	2240	.734E+01	354	2261	.798E+01	440	2194	.604E+01
270	2251	.766E+01	356	2261	.798E+01	442	2194	.604E+01
272	2251	.766E+01	358	2261	.798E+01	444	2194	.604E+01
274	2261	.798E+01	360	2261	.798E+01	446	2194	.604E+01
276	2261	.798E+01	362	2261	.798E+01	448	2180	.571E+01
278	2270	.829E+01	364	2261	.798E+01	450	2180	.571E+01
280	2270	.829E+01	366	2261	.798E+01	452	2194	.604E+01
282	2270	.829E+01	368	2251	.766E+01	454	2180	.571E+01
284	2270	.829E+01	370	2261	.798E+01	456	2180	.571E+01
286	2270	.829E+01	372	2251	.766E+01	458	2180	.571E+01
288	2270	.829E+01	374	2251	.766E+01	460	2180	.571E+01
290	2280	.861E+01	376	2251	.766E+01	462	2180	.571E+01
292	2270	.829E+01	378	2251	.766E+01	464	2180	.571E+01
294	2270	.829E+01	380	2251	.766E+01	466	2167	.538E+01
296	2270	.829E+01	382	2251	.766E+01	468	2167	.538E+01
298	2280	.861E+01	384	2251	.766E+01	470	2167	.538E+01
300	2270	.829E+01	386	2240	.734E+01	472	2167	.538E+01
302	2261	.798E+01	388	2240	.734E+01	474	2167	.538E+01
304	2270	.829E+01	390	2240	.734E+01	476	2167	.538E+01
306	2270	.829E+01	392	2240	.734E+01	478	2167	.538E+01
308	2270	.829E+01	394	2240	.734E+01	480	2167	.538E+01
310	2270	.829E+01	396	2240	.734E+01	482	2167	.538E+01
312	2270	.829E+01	398	2229	.702E+01	484	2152	.504E+01
314	2270	.829E+01	400	2229	.702E+01	486	2152	.504E+01
316	2270	.829E+01	402	2218	.669E+01	488	2152	.504E+01
318	2270	.829E+01	404	2218	.669E+01	490	2152	.504E+01
320	2270	.829E+01	406	2218	.669E+01	492	2152	.504E+01
322	2270	.829E+01	408	2218	.669E+01	494	2152	.504E+01
324	2270	.829E+01	410	2218	.669E+01	496	2152	.504E+01
326	2261	.798E+01	412	2218	.669E+01	498	2152	.504E+01
328	2261	.798E+01	414	2218	.669E+01	500	2152	.504E+01
330	2270	.829E+01	416	2206	.637E+01	502	2152	.504E+01
332	2270	.829E+01	418	2206	.637E+01	504	2137	.470E+01
334	2270	.829E+01	420	2206	.637E+01	506	2152	.504E+01
336	2270	.829E+01	422	2206	.637E+01	508	2137	.470E+01
338	2261	.798E+01	424	2206	.637E+01	510	2137	.470E+01
340	2261	.798E+01	426	2206	.637E+01	512	2137	.470E+01
342	2261	.798E+01	428	2206	.637E+01			
344	2261	.798E+01	430	2206	.637E+01			

TABLE 18

D=1.5mm λ=0.8μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
2	2550	.314E+02	84	2484	.261E+02	166	2345	.170E+02
4	2547	.312E+02	86	2484	.261E+02	168	2334	.164E+02
6	2550	.314E+02	88	2477	.256E+02	170	2334	.164E+02
8	2547	.312E+02	90	2474	.253E+02	172	2329	.161E+02
10	2550	.314E+02	92	2471	.251E+02	174	2329	.161E+02
12	2550	.314E+02	94	2464	.246E+02	176	2323	.158E+02
14	2550	.314E+02	96	2461	.244E+02	178	2317	.155E+02
16	2550	.314E+02	98	2461	.244E+02	180	2317	.155E+02
18	2550	.314E+02	100	2454	.239E+02	182	2317	.155E+02
20	2550	.314E+02	102	2447	.233E+02	184	2323	.158E+02
22	2550	.314E+02	104	2443	.231E+02	186	2317	.155E+02
24	2547	.312E+02	106	2443	.231E+02	188	2311	.152E+02
26	2550	.314E+02	108	2435	.226E+02	190	2311	.152E+02
28	2552	.316E+02	110	2432	.223E+02	192	2305	.149E+02
30	2550	.314E+02	112	2428	.220E+02	194	2305	.149E+02
32	2545	.310E+02	114	2424	.218E+02	196	2305	.149E+02
34	2547	.312E+02	116	2420	.215E+02	198	2305	.149E+02
36	2550	.314E+02	118	2416	.212E+02	200	2299	.146E+02
38	2550	.314E+02	120	2411	.210E+02	202	2299	.146E+02
40	2545	.310E+02	122	2407	.207E+02	204	2299	.146E+02
42	2550	.314E+02	124	2407	.207E+02	206	2293	.143E+02
44	2550	.314E+02	126	2403	.204E+02	208	2293	.143E+02
46	2552	.316E+02	128	2403	.204E+02	210	2286	.139E+02
48	2547	.312E+02	130	2394	.199E+02	212	2280	.136E+02
50	2545	.310E+02	132	2394	.199E+02	214	2280	.136E+02
52	2550	.314E+02	134	2394	.199E+02	216	2286	.139E+02
54	2550	.314E+02	136	2385	.193E+02	218	2280	.136E+02
56	2550	.314E+02	138	2380	.190E+02	220	2280	.136E+02
58	2547	.312E+02	140	2380	.190E+02	222	2280	.136E+02
60	2543	.308E+02	142	2380	.190E+02	224	2266	.130E+02
62	2538	.304E+02	144	2371	.185E+02	226	2266	.130E+02
64	2533	.300E+02	146	2376	.187E+02	228	2266	.130E+02
66	2528	.296E+02	148	2371	.185E+02	230	2259	.127E+02
68	2521	.290E+02	150	2361	.179E+02	232	2259	.127E+02
70	2518	.288E+02	152	2361	.179E+02	234	2259	.127E+02
72	2515	.286E+02	154	2356	.176E+02	236	2259	.127E+02
74	2510	.281E+02	156	2356	.176E+02	238	2252	.123E+02
76	2504	.277E+02	158	2356	.176E+02	240	2252	.123E+02
78	2502	.274E+02	160	2351	.173E+02	242	2252	.123E+02
80	2496	.270E+02	162	2345	.170E+02	244	2252	.123E+02
82	2493	.268E+02	164	2345	.170E+02	246	2244	.120E+02

TABLE 18 (CONTINUED)

D=1.5mm λ=0.8μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
248	2244	.120E+02	330	2266	.130E+02	412	2266	.130E+02
250	2244	.120E+02	332	2273	.133E+02	414	2259	.127E+02
252	2236	.117E+02	334	2273	.133E+02	416	2259	.127E+02
254	2236	.117E+02	336	2266	.130E+02	418	2259	.127E+02
256	2236	.117E+02	338	2266	.130E+02	420	2259	.127E+02
258	2236	.117E+02	340	2266	.130E+02	422	2266	.130E+02
260	2236	.117E+02	342	2273	.133E+02	424	2266	.130E+02
262	2229	.114E+02	344	2273	.133E+02	426	2259	.127E+02
264	2229	.114E+02	346	2273	.133E+02	428	2266	.130E+02
266	2229	.114E+02	348	2273	.133E+02	430	2259	.127E+02
268	2229	.114E+02	350	2273	.133E+02	432	2259	.127E+02
270	2229	.114E+02	352	2273	.133E+02	434	2259	.127E+02
272	2221	.110E+02	354	2266	.130E+02	436	2259	.127E+02
274	2221	.110E+02	356	2273	.133E+02	438	2259	.127E+02
276	2212	.107E+02	358	2266	.130E+02	440	2259	.127E+02
278	2212	.107E+02	360	2266	.130E+02	442	2259	.127E+02
280	2212	.107E+02	362	2266	.130E+02	444	2252	.123E+02
282	2212	.107E+02	364	2273	.133E+02	446	2259	.127E+02
284	2204	.104E+02	366	2273	.133E+02	448	2252	.123E+02
286	2221	.110E+02	368	2266	.130E+02	450	2252	.123E+02
288	2229	.114E+02	370	2273	.133E+02	452	2252	.123E+02
290	2236	.117E+02	372	2266	.130E+02	454	2252	.123E+02
292	2236	.117E+02	374	2266	.130E+02	456	2252	.123E+02
294	2236	.117E+02	376	2266	.130E+02	458	2252	.123E+02
296	2236	.117E+02	378	2266	.130E+02	460	2252	.123E+02
298	2244	.120E+02	380	2273	.133E+02	462	2252	.123E+02
300	2252	.123E+02	382	2266	.130E+02	464	2252	.123E+02
302	2252	.123E+02	384	2266	.130E+02	466	2252	.123E+02
304	2252	.123E+02	386	2273	.133E+02	468	2252	.123E+02
306	2252	.123E+02	388	2266	.130E+02	470	2244	.120E+02
308	2252	.123E+02	390	2266	.130E+02	472	2244	.120E+02
310	2252	.123E+02	392	2266	.130E+02	474	2244	.120E+02
312	2259	.127E+02	394	2266	.130E+02	476	2244	.120E+02
314	2273	.133E+02	396	2266	.130E+02	478	2244	.120E+02
316	2273	.133E+02	398	2266	.130E+02	480	2252	.123E+02
318	2266	.130E+02	400	2266	.130E+02	482	2244	.120E+02
320	2266	.130E+02	402	2266	.130E+02	484	2244	.120E+02
322	2273	.133E+02	404	2259	.127E+02	486	2244	.120E+02
324	2273	.133E+02	406	2259	.127E+02	488	2244	.120E+02
326	2280	.136E+02	408	2259	.127E+02	490	2236	.117E+02
328	2273	.133E+02	410	2266	.130E+02	492	2236	.117E+02

TABLE 18 (CONTINUED)

D=1.5mm λ=0.8μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
494	2236	.117E+02	576	2212	.107E+02	658	2146	.834E+01
496	2236	.117E+02	578	2212	.107E+02	660	2136	.800E+01
498	2236	.117E+02	580	2204	.104E+02	662	2124	.765E+01
500	2236	.117E+02	582	2212	.107E+02	664	2124	.765E+01
502	2236	.117E+02	584	2212	.107E+02	666	2124	.765E+01
504	2236	.117E+02	586	2204	.104E+02	668	2124	.765E+01
506	2236	.117E+02	588	2204	.104E+02	670	2113	.730E+01
508	2236	.117E+02	590	2212	.107E+02	672	2113	.730E+01
510	2236	.117E+02	592	2204	.104E+02	674	2113	.730E+01
512	2236	.117E+02	594	2204	.104E+02	676	2101	.695E+01
514	2236	.117E+02	596	2204	.104E+02	678	2101	.695E+01
516	2236	.117E+02	598	2204	.104E+02	680	2101	.695E+01
518	2229	.114E+02	600	2204	.104E+02	682	2088	.660E+01
520	2229	.114E+02	602	2195	.100E+02	684	2088	.660E+01
522	2229	.114E+02	604	2195	.100E+02	686	2088	.660E+01
524	2229	.114E+02	606	2195	.100E+02	688	2075	.625E+01
526	2236	.117E+02	608	2195	.100E+02	690	2088	.660E+01
528	2229	.114E+02	610	2195	.100E+02	692	2075	.625E+01
530	2229	.114E+02	612	2195	.100E+02	694	2075	.625E+01
532	2229	.114E+02	614	2186	.971E+01	696	2075	.625E+01
534	2229	.114E+02	616	2186	.971E+01	698	2075	.625E+01
536	2229	.114E+02	618	2195	.100E+02	700	2061	.589E+01
538	2229	.114E+02	620	2195	.100E+02	702	2061	.589E+01
540	2229	.114E+02	622	2186	.971E+01	704	2061	.589E+01
542	2221	.110E+02	624	2176	.937E+01	706	2061	.589E+01
544	2221	.110E+02	626	2186	.971E+01	708	2046	.553E+01
546	2229	.114E+02	628	2186	.971E+01	710	2061	.589E+01
548	2229	.114E+02	630	2167	.903E+01	712	2046	.553E+01
550	2229	.114E+02	632	2176	.937E+01	714	2046	.553E+01
552	2221	.110E+02	634	2176	.937E+01	716	2046	.553E+01
554	2229	.114E+02	636	2167	.903E+01	718	2046	.553E+01
556	2212	.107E+02	638	2176	.937E+01	720	2046	.553E+01
558	2221	.110E+02	640	2167	.903E+01	722	2031	.517E+01
560	2212	.107E+02	642	2176	.937E+01	724	2031	.517E+01
562	2221	.110E+02	644	2167	.903E+01	726	2031	.517E+01
564	2221	.110E+02	646	2167	.903E+01	728	2031	.517E+01
566	2212	.107E+02	648	2167	.903E+01	730	2014	.481E+01
568	2212	.107E+02	650	2157	.869E+01	732	2031	.517E+01
570	2212	.107E+02	652	2157	.869E+01	734	2014	.481E+01
572	2212	.107E+02	654	2146	.834E+01	736	2014	.481E+01
574	2212	.107E+02	656	2146	.834E+01			

TABLE 19

D=1.5mm λ=0.9μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
2	2570	.402E+02	118	2467	.309E+02	234	2351	.225E+02
4	2570	.402E+02	120	2463	.306E+02	236	2351	.225E+02
6	2570	.402E+02	122	2459	.303E+02	238	2351	.225E+02
8	2571	.403E+02	124	2455	.300E+02	240	2338	.217E+02
10	2570	.402E+02	126	2451	.297E+02	242	2345	.221E+02
12	2571	.403E+02	128	2451	.297E+02	244	2345	.221E+02
14	2570	.402E+02	130	2443	.291E+02	246	2338	.217E+02
16	2569	.401E+02	132	2443	.291E+02	248	2332	.213E+02
18	2571	.403E+02	134	2439	.287E+02	250	2325	.208E+02
20	2571	.403E+02	136	2430	.281E+02	252	2325	.208E+02
22	2570	.402E+02	138	2430	.281E+02	254	2325	.208E+02
24	2571	.403E+02	140	2425	.277E+02	256	2318	.204E+02
26	2570	.402E+02	142	2425	.277E+02	258	2318	.204E+02
28	2570	.402E+02	144	2421	.274E+02	260	2311	.200E+02
30	2571	.403E+02	146	2416	.270E+02	262	2311	.200E+02
32	2571	.403E+02	148	2411	.267E+02	264	2311	.200E+02
34	2571	.403E+02	150	2416	.270E+02	266	2304	.195E+02
36	2570	.402E+02	152	2411	.267E+02	268	2296	.191E+02
38	2570	.402E+02	154	2411	.267E+02	270	2304	.195E+02
40	2570	.402E+02	156	2411	.267E+02	272	2296	.191E+02
42	2572	.404E+02	158	2406	.263E+02	274	2296	.191E+02
44	2570	.402E+02	160	2411	.267E+02	276	2296	.191E+02
46	2570	.402E+02	162	2406	.263E+02	278	2288	.187E+02
48	2571	.403E+02	164	2401	.259E+02	280	2288	.187E+02
50	2572	.404E+02	166	2401	.259E+02	282	2288	.187E+02
52	2571	.403E+02	168	2396	.256E+02	284	2288	.187E+02
54	2571	.403E+02	170	2396	.256E+02	286	2288	.187E+02
56	2570	.402E+02	172	2396	.256E+02	288	2281	.182E+02
58	2570	.402E+02	174	2396	.256E+02	290	2273	.178E+02
60	2569	.401E+02	176	2396	.256E+02	292	2273	.178E+02
62	2565	.397E+02	178	2391	.252E+02	294	2273	.178E+02
64	2564	.396E+02	180	2391	.252E+02	296	2273	.178E+02
66	2562	.394E+02	182	2396	.256E+02	298	2264	.173E+02
68	2556	.389E+02	184	2391	.252E+02	300	2264	.173E+02
70	2553	.386E+02	186	2386	.248E+02	302	2264	.173E+02
72	2551	.384E+02	188	2386	.248E+02	304	2264	.173E+02
74	2546	.379E+02	190	2380	.244E+02	306	2264	.173E+02
76	2544	.377E+02	192	2391	.252E+02	308	2264	.173E+02
78	2542	.375E+02	194	2391	.252E+02	310	2256	.169E+02
80	2538	.371E+02	196	2391	.252E+02	312	2247	.164E+02
82	2534	.367E+02	198	2386	.248E+02	314	2247	.164E+02
84	2529	.363E+02	200	2396	.256E+02	316	2247	.164E+02
86	2524	.359E+02	202	2401	.259E+02	318	2256	.169E+02
88	2524	.359E+02	204	2396	.256E+02	320	2247	.164E+02
90	2519	.354E+02	206	2396	.256E+02	322	2247	.164E+02
92	2514	.350E+02	208	2396	.256E+02	324	2247	.164E+02
94	2511	.347E+02	210	2391	.252E+02	326	2247	.164E+02
96	2509	.345E+02	212	2380	.244E+02	328	2247	.164E+02
98	2506	.343E+02	214	2386	.248E+02	330	2238	.159E+02
100	2500	.337E+02	216	2386	.248E+02	332	2238	.159E+02
102	2497	.335E+02	218	2380	.244E+02	334	2238	.159E+02
104	2494	.332E+02	220	2375	.241E+02	336	2238	.159E+02
106	2491	.329E+02	222	2375	.241E+02	338	2229	.155E+02
108	2484	.324E+02	224	2369	.237E+02	340	2238	.159E+02
110	2481	.321E+02	226	2369	.237E+02	342	2229	.155E+02
112	2477	.318E+02	228	2363	.233E+02	344	2229	.155E+02
114	2470	.312E+02	230	2357	.229E+02	346	2229	.155E+02
116	2470	.312E+02	232	2357	.229E+02	348	2229	.155E+02

TABLE 19 (CONTINUED)

D=1.5mm λ=0.9μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
350	2229	.155E+02	466	2264	.173E+02	582	2209	.145E+02
352	2229	.155E+02	468	2256	.169E+02	584	2209	.145E+02
354	2229	.155E+02	470	2256	.169E+02	586	2209	.145E+02
356	2238	.159E+02	472	2256	.169E+02	588	2209	.145E+02
358	2238	.159E+02	474	2256	.169E+02	590	2209	.145E+02
360	2238	.159E+02	476	2247	.164E+02	592	2209	.145E+02
362	2238	.159E+02	478	2247	.164E+02	594	2209	.145E+02
364	2247	.164E+02	480	2256	.169E+02	596	2199	.140E+02
366	2238	.159E+02	482	2247	.164E+02	598	2199	.140E+02
368	2247	.164E+02	484	2256	.169E+02	600	2199	.140E+02
370	2247	.164E+02	486	2247	.164E+02	602	2199	.140E+02
372	2247	.164E+02	488	2247	.164E+02	604	2199	.140E+02
374	2247	.164E+02	490	2247	.164E+02	606	2199	.140E+02
376	2264	.173E+02	492	2238	.159E+02	608	2199	.140E+02
378	2264	.173E+02	494	2238	.159E+02	610	2199	.140E+02
380	2264	.173E+02	496	2238	.159E+02	612	2188	.135E+02
382	2264	.173E+02	498	2238	.159E+02	614	2188	.135E+02
384	2264	.173E+02	500	2238	.159E+02	616	2188	.135E+02
386	2273	.178E+02	502	2238	.159E+02	618	2188	.135E+02
388	2264	.173E+02	504	2238	.159E+02	620	2188	.135E+02
390	2273	.178E+02	506	2238	.159E+02	622	2188	.135E+02
392	2273	.178E+02	508	2238	.159E+02	624	2188	.135E+02
394	2273	.178E+02	510	2238	.159E+02	626	2177	.131E+02
396	2273	.178E+02	512	2229	.155E+02	628	2166	.126E+02
398	2273	.178E+02	514	2229	.155E+02	630	2166	.126E+02
400	2273	.178E+02	516	2229	.155E+02	632	2154	.121E+02
402	2273	.178E+02	518	2238	.159E+02	634	2154	.121E+02
404	2273	.178E+02	520	2238	.159E+02	636	2154	.121E+02
406	2273	.178E+02	522	2229	.155E+02	638	2154	.121E+02
408	2273	.178E+02	524	2229	.155E+02	640	2154	.121E+02
410	2273	.178E+02	526	2229	.155E+02	642	2154	.121E+02
412	2273	.178E+02	528	2229	.155E+02	644	2141	.116E+02
414	2273	.178E+02	530	2229	.155E+02	646	2129	.110E+02
416	2273	.178E+02	532	2229	.155E+02	648	2115	.105E+02
418	2273	.178E+02	534	2229	.155E+02	650	2115	.105E+02
420	2273	.178E+02	536	2229	.155E+02	652	2115	.105E+02
422	2273	.178E+02	538	2229	.155E+02	654	2101	.100E+02
424	2273	.178E+02	540	2229	.155E+02	656	2101	.100E+02
426	2273	.178E+02	542	2229	.155E+02	658	2101	.100E+02
428	2264	.173E+02	544	2229	.155E+02	660	2101	.100E+02
430	2264	.173E+02	546	2219	.150E+02	662	2101	.100E+02
432	2264	.173E+02	548	2229	.155E+02	664	2087	.949E+01
434	2264	.173E+02	550	2229	.155E+02	666	2087	.949E+01
436	2264	.173E+02	552	2219	.150E+02	668	2071	.897E+01
438	2264	.173E+02	554	2219	.150E+02	670	2071	.897E+01
440	2264	.173E+02	556	2219	.150E+02	672	2055	.844E+01
442	2264	.173E+02	558	2219	.150E+02	674	2055	.844E+01
444	2264	.173E+02	560	2209	.145E+02	676	2038	.790E+01
446	2264	.173E+02	562	2219	.150E+02	678	2055	.844E+01
448	2264	.173E+02	564	2219	.150E+02	680	2055	.844E+01
450	2256	.169E+02	566	2209	.145E+02	682	2055	.844E+01
452	2264	.173E+02	568	2209	.145E+02	684	2055	.844E+01
454	2264	.173E+02	570	2209	.145E+02	686	2038	.790E+01
456	2264	.173E+02	572	2209	.145E+02	688	2038	.790E+01
458	2264	.173E+02	574	2209	.145E+02	690	2038	.790E+01
460	2256	.169E+02	576	2209	.145E+02	692	2020	.736E+01
462	2256	.169E+02	578	2209	.145E+02	694	2020	.736E+01
464	2247	.164E+02	580	2209	.145E+02	696	2020	.736E+01

TABLE 20

D=1.5mm λ=1.0μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
2	2534	.408E+02	86	2483	.363E+02	170	2358	.267E+02
4	2531	.406E+02	88	2483	.363E+02	172	2358	.267E+02
6	2534	.408E+02	90	2475	.357E+02	174	2351	.262E+02
8	2534	.408E+02	92	2475	.357E+02	176	2351	.262E+02
10	2531	.406E+02	94	2471	.353E+02	178	2336	.253E+02
12	2531	.406E+02	96	2462	.346E+02	180	2336	.253E+02
14	2529	.404E+02	98	2458	.343E+02	182	2336	.253E+02
16	2534	.408E+02	100	2458	.343E+02	184	2336	.253E+02
18	2534	.408E+02	102	2454	.339E+02	186	2336	.253E+02
20	2531	.406E+02	104	2454	.339E+02	188	2321	.242E+02
22	2531	.406E+02	106	2454	.339E+02	190	2329	.248E+02
24	2531	.406E+02	108	2449	.335E+02	192	2321	.242E+02
26	2534	.408E+02	110	2444	.332E+02	194	2313	.237E+02
28	2531	.406E+02	112	2444	.332E+02	196	2313	.237E+02
30	2531	.406E+02	114	2435	.324E+02	198	2321	.242E+02
32	2534	.408E+02	116	2435	.324E+02	200	2305	.232E+02
34	2531	.406E+02	118	2435	.324E+02	202	2305	.232E+02
36	2529	.404E+02	120	2430	.320E+02	204	2305	.232E+02
38	2531	.406E+02	122	2424	.316E+02	206	2305	.232E+02
40	2531	.406E+02	124	2424	.316E+02	208	2305	.232E+02
42	2534	.408E+02	126	2419	.312E+02	210	2296	.227E+02
44	2534	.408E+02	128	2419	.312E+02	212	2296	.227E+02
46	2534	.408E+02	130	2414	.308E+02	214	2296	.227E+02
48	2531	.406E+02	132	2408	.303E+02	216	2296	.227E+02
50	2531	.406E+02	134	2402	.299E+02	218	2288	.221E+02
52	2531	.406E+02	136	2402	.299E+02	220	2288	.221E+02
54	2531	.406E+02	138	2396	.295E+02	222	2288	.221E+02
56	2531	.406E+02	140	2396	.295E+02	224	2279	.216E+02
58	2526	.402E+02	142	2396	.295E+02	226	2288	.221E+02
60	2526	.402E+02	144	2390	.290E+02	228	2279	.216E+02
62	2524	.399E+02	146	2390	.290E+02	230	2279	.216E+02
64	2524	.399E+02	148	2384	.286E+02	232	2279	.216E+02
66	2518	.395E+02	150	2378	.281E+02	234	2279	.216E+02
68	2516	.392E+02	152	2384	.286E+02	236	2269	.211E+02
70	2516	.392E+02	154	2378	.281E+02	238	2269	.211E+02
72	2510	.387E+02	156	2378	.281E+02	240	2260	.205E+02
74	2504	.381E+02	158	2371	.277E+02	242	2260	.205E+02
76	2500	.379E+02	160	2365	.272E+02	244	2260	.205E+02
78	2497	.376E+02	162	2365	.272E+02	246	2260	.205E+02
80	2493	.373E+02	164	2365	.272E+02	248	2260	.205E+02
82	2490	.370E+02	166	2358	.267E+02	250	2260	.205E+02
84	2486	.366E+02	168	2358	.267E+02	252	2260	.205E+02

TABLE 20 (CONTINUED)

D=1.5mm λ=1.0μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
254	2250	.199E+02	338	2288	.221E+02	422	2288	.221E+02
256	2250	.199E+02	340	2288	.221E+02	424	2288	.221E+02
258	2250	.199E+02	342	2296	.227E+02	426	2288	.221E+02
260	2240	.194E+02	344	2296	.227E+02	428	2288	.221E+02
262	2240	.194E+02	346	2296	.227E+02	430	2288	.221E+02
264	2240	.194E+02	348	2305	.232E+02	432	2279	.216E+02
266	2250	.199E+02	350	2296	.227E+02	434	2288	.221E+02
268	2240	.194E+02	352	2296	.227E+02	436	2288	.221E+02
270	2240	.194E+02	354	2296	.227E+02	438	2279	.216E+02
272	2240	.194E+02	356	2296	.227E+02	440	2279	.216E+02
274	2230	.188E+02	358	2296	.227E+02	442	2288	.221E+02
276	2230	.188E+02	360	2296	.227E+02	444	2279	.216E+02
278	2230	.188E+02	362	2296	.227E+02	446	2288	.221E+02
280	2219	.182E+02	364	2296	.227E+02	448	2279	.216E+02
282	2230	.188E+02	366	2288	.221E+02	450	2288	.221E+02
284	2219	.182E+02	368	2288	.221E+02	452	2288	.221E+02
286	2230	.188E+02	370	2288	.221E+02	454	2279	.216E+02
288	2219	.182E+02	372	2296	.227E+02	456	2279	.216E+02
290	2219	.182E+02	374	2296	.227E+02	458	2279	.216E+02
292	2230	.188E+02	376	2296	.227E+02	460	2288	.221E+02
294	2230	.188E+02	378	2288	.221E+02	462	2279	.216E+02
296	2240	.194E+02	380	2296	.227E+02	464	2279	.216E+02
298	2250	.199E+02	382	2288	.221E+02	466	2279	.216E+02
300	2250	.199E+02	384	2288	.221E+02	468	2279	.216E+02
302	2260	.205E+02	386	2296	.227E+02	470	2279	.216E+02
304	2260	.205E+02	388	2296	.227E+02	472	2279	.216E+02
306	2269	.211E+02	390	2296	.227E+02	474	2279	.216E+02
308	2279	.216E+02	392	2288	.221E+02	476	2279	.216E+02
310	2279	.216E+02	394	2296	.227E+02	478	2279	.216E+02
312	2296	.227E+02	396	2296	.227E+02	480	2279	.216E+02
314	2288	.221E+02	398	2288	.221E+02	482	2279	.216E+02
316	2296	.227E+02	400	2288	.221E+02	484	2279	.216E+02
318	2296	.227E+02	402	2296	.227E+02	486	2279	.216E+02
320	2296	.227E+02	404	2288	.221E+02	488	2279	.216E+02
322	2296	.227E+02	406	2288	.221E+02	490	2269	.211E+02
324	2305	.232E+02	408	2296	.227E+02	492	2279	.216E+02
326	2296	.227E+02	410	2288	.221E+02	494	2279	.216E+02
328	2296	.227E+02	412	2296	.227E+02	496	2269	.211E+02
330	2296	.227E+02	414	2288	.221E+02	498	2279	.216E+02
332	2296	.227E+02	416	2296	.227E+02	500	2279	.216E+02
334	2296	.227E+02	418	2288	.221E+02	502	2279	.216E+02
336	2288	.221E+02	420	2288	.221E+02	504	2269	.211E+02

TABLE 20 (CONTINUED)

D=1.5mm λ=1.0μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
506	2279	.216E+02	590	2240	.194E+02	674	2159	.152E+02
508	2269	.211E+02	592	2250	.199E+02	676	2146	.146E+02
510	2269	.211E+02	594	2240	.194E+02	678	2146	.146E+02
512	2269	.211E+02	596	2250	.199E+02	680	2132	.140E+02
514	2269	.211E+02	598	2250	.199E+02	682	2117	.133E+02
516	2269	.211E+02	600	2250	.199E+02	684	2117	.133E+02
518	2269	.211E+02	602	2240	.194E+02	686	2117	.133E+02
520	2269	.211E+02	604	2240	.194E+02	688	2102	.127E+02
522	2269	.211E+02	606	2240	.194E+02	690	2102	.127E+02
524	2269	.211E+02	608	2240	.194E+02	692	2102	.127E+02
526	2269	.211E+02	610	2240	.194E+02	694	2086	.120E+02
528	2269	.211E+02	612	2240	.194E+02	696	2086	.120E+02
530	2269	.211E+02	614	2230	.188E+02	698	2086	.120E+02
532	2269	.211E+02	616	2230	.188E+02	700	2086	.120E+02
534	2260	.205E+02	618	2230	.188E+02	702	2086	.120E+02
536	2260	.205E+02	620	2219	.182E+02	704	2069	.114E+02
538	2260	.205E+02	622	2219	.182E+02	706	2069	.114E+02
540	2260	.205E+02	624	2230	.188E+02	708	2069	.114E+02
542	2260	.205E+02	626	2230	.188E+02	710	2069	.114E+02
544	2260	.205E+02	628	2230	.188E+02	712	2069	.114E+02
546	2260	.205E+02	630	2219	.182E+02	714	2069	.114E+02
548	2260	.205E+02	632	2208	.176E+02	716	2052	.107E+02
550	2260	.205E+02	634	2208	.176E+02	718	2069	.114E+02
552	2260	.205E+02	636	2208	.176E+02	720	2052	.107E+02
554	2260	.205E+02	638	2184	.164E+02	722	2052	.107E+02
556	2260	.205E+02	640	2184	.164E+02	724	2033	.101E+02
558	2260	.205E+02	642	2184	.164E+02	726	2033	.101E+02
560	2260	.205E+02	644	2184	.164E+02	728	2033	.101E+02
562	2250	.199E+02	646	2184	.164E+02	730	2033	.101E+02
564	2250	.199E+02	648	2184	.164E+02	732	2033	.101E+02
566	2250	.199E+02	650	2184	.164E+02	734	2033	.101E+02
568	2260	.205E+02	652	2184	.164E+02	736	2013	.939E+01
570	2250	.199E+02	654	2184	.164E+02	738	2013	.939E+01
572	2260	.205E+02	656	2184	.164E+02	740	2013	.939E+01
574	2250	.199E+02	658	2172	.158E+02			
576	2250	.199E+02	660	2184	.164E+02			
578	2250	.199E+02	662	2172	.158E+02			
580	2250	.199E+02	664	2172	.158E+02			
582	2250	.199E+02	666	2159	.152E+02			
584	2250	.199E+02	668	2172	.158E+02			
586	2250	.199E+02	670	2159	.152E+02			
588	2250	.199E+02	672	2172	.158E+02			

TABLE 21

D=1.5mm λ=1.05μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
2	2627	.509E+02	92	2521	.408E+02	182	2344	.271E+02
4	2619	.502E+02	94	2541	.426E+02	184	2344	.271E+02
6	2619	.502E+02	96	2521	.408E+02	186	2344	.271E+02
8	2611	.494E+02	98	2500	.390E+02	188	2344	.271E+02
10	2619	.502E+02	100	2500	.390E+02	190	2328	.260E+02
12	2627	.509E+02	102	2500	.390E+02	192	2328	.260E+02
14	2611	.494E+02	104	2500	.390E+02	194	2328	.260E+02
16	2611	.494E+02	106	2500	.390E+02	196	2328	.260E+02
18	2611	.494E+02	108	2477	.371E+02	198	2312	.249E+02
20	2619	.502E+02	110	2477	.371E+02	200	2295	.238E+02
22	2611	.494E+02	112	2489	.381E+02	202	2328	.260E+02
24	2627	.509E+02	114	2466	.362E+02	204	2312	.249E+02
26	2635	.517E+02	116	2466	.362E+02	206	2295	.238E+02
28	2611	.494E+02	118	2466	.362E+02	208	2312	.249E+02
30	2619	.502E+02	120	2454	.352E+02	210	2312	.249E+02
32	2619	.502E+02	122	2442	.342E+02	212	2312	.249E+02
34	2619	.502E+02	124	2442	.342E+02	214	2295	.238E+02
36	2619	.502E+02	126	2454	.352E+02	216	2312	.249E+02
38	2611	.494E+02	128	2454	.352E+02	218	2295	.238E+02
40	2619	.502E+02	130	2429	.332E+02	220	2277	.228E+02
42	2619	.502E+02	132	2442	.342E+02	222	2277	.228E+02
44	2619	.502E+02	134	2416	.322E+02	224	2295	.238E+02
46	2619	.502E+02	136	2416	.322E+02	226	2295	.238E+02
48	2619	.502E+02	138	2416	.322E+02	228	2295	.238E+02
50	2619	.502E+02	140	2416	.322E+02	230	2258	.216E+02
52	2619	.502E+02	142	2416	.322E+02	232	2277	.228E+02
54	2619	.502E+02	144	2416	.322E+02	234	2258	.216E+02
56	2611	.494E+02	146	2402	.312E+02	236	2277	.228E+02
58	2611	.494E+02	148	2402	.312E+02	238	2277	.228E+02
60	2611	.494E+02	150	2402	.312E+02	240	2239	.205E+02
62	2603	.486E+02	152	2402	.312E+02	242	2258	.216E+02
64	2595	.477E+02	154	2402	.312E+02	244	2277	.228E+02
66	2595	.477E+02	156	2389	.302E+02	246	2258	.216E+02
68	2586	.469E+02	158	2389	.302E+02	248	2258	.216E+02
70	2595	.477E+02	160	2374	.292E+02	250	2258	.216E+02
72	2578	.461E+02	162	2374	.292E+02	252	2239	.205E+02
74	2569	.452E+02	164	2374	.292E+02	254	2239	.205E+02
76	2560	.444E+02	166	2359	.281E+02	256	2239	.205E+02
78	2550	.435E+02	168	2374	.292E+02	258	2239	.205E+02
80	2560	.444E+02	170	2359	.281E+02	260	2218	.194E+02
82	2550	.435E+02	172	2359	.281E+02	262	2239	.205E+02
84	2541	.426E+02	174	2359	.281E+02	264	2218	.194E+02
86	2541	.426E+02	176	2344	.271E+02	266	2218	.194E+02
88	2541	.426E+02	178	2328	.260E+02	268	2218	.194E+02
90	2541	.426E+02	180	2344	.271E+02	270	2218	.194E+02

TABLE 21 (CONTINUED)

D=1.5mm λ=1.05μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
272	2218	.194E+02	362	2277	.228E+02	452	2258	.216E+02
274	2239	.205E+02	364	2277	.228E+02	454	2258	.216E+02
276	2218	.194E+02	366	2277	.228E+02	456	2239	.205E+02
278	2197	.183E+02	368	2295	.238E+02	458	2239	.205E+02
280	2218	.194E+02	370	2295	.238E+02	460	2239	.205E+02
282	2218	.194E+02	372	2295	.238E+02	462	2239	.205E+02
284	2239	.205E+02	374	2277	.228E+02	464	2258	.216E+02
286	2218	.194E+02	376	2258	.216E+02	466	2258	.216E+02
288	2218	.194E+02	378	2258	.216E+02	468	2258	.216E+02
290	2239	.205E+02	380	2258	.216E+02	470	2258	.216E+02
292	2258	.216E+02	382	2258	.216E+02	472	2239	.205E+02
294	2239	.205E+02	384	2277	.228E+02	474	2258	.216E+02
296	2258	.216E+02	386	2258	.216E+02	476	2239	.205E+02
298	2239	.205E+02	388	2277	.228E+02	478	2239	.205E+02
300	2258	.216E+02	390	2277	.228E+02	480	2218	.194E+02
302	2239	.205E+02	392	2295	.238E+02	482	2239	.205E+02
304	2258	.216E+02	394	2277	.228E+02	484	2218	.194E+02
306	2277	.228E+02	396	2258	.216E+02	486	2239	.205E+02
308	2277	.228E+02	398	2239	.205E+02	488	2239	.205E+02
310	2295	.238E+02	400	2258	.216E+02	490	2239	.205E+02
312	2295	.238E+02	402	2258	.216E+02	492	2218	.194E+02
314	2277	.228E+02	404	2258	.216E+02	494	2239	.205E+02
316	2295	.238E+02	406	2239	.205E+02	496	2218	.194E+02
318	2295	.238E+02	408	2258	.216E+02	498	2239	.205E+02
320	2277	.228E+02	410	2239	.205E+02	500	2239	.205E+02
322	2295	.238E+02	412	2258	.216E+02	502	2218	.194E+02
324	2277	.228E+02	414	2277	.228E+02	504	2218	.194E+02
326	2295	.238E+02	416	2258	.216E+02	506	2258	.216E+02
328	2277	.228E+02	418	2277	.228E+02	508	2218	.194E+02
330	2277	.228E+02	420	2258	.216E+02	510	2239	.205E+02
332	2295	.238E+02	422	2258	.216E+02	512	2218	.194E+02
334	2295	.238E+02	424	2258	.216E+02	514	2239	.205E+02
336	2295	.238E+02	426	2258	.216E+02	516	2239	.205E+02
338	2277	.228E+02	428	2277	.228E+02	518	2218	.194E+02
340	2295	.238E+02	430	2258	.216E+02	520	2218	.194E+02
342	2295	.238E+02	432	2258	.216E+02	522	2197	.183E+02
344	2295	.238E+02	434	2277	.228E+02	524	2218	.194E+02
346	2277	.228E+02	436	2239	.205E+02	526	2218	.194E+02
348	2295	.238E+02	438	2258	.216E+02	528	2239	.205E+02
350	2277	.228E+02	440	2258	.216E+02	530	2218	.194E+02
352	2277	.228E+02	442	2258	.216E+02	532	2218	.194E+02
354	2312	.249E+02	444	2258	.216E+02	534	2197	.183E+02
356	2295	.238E+02	446	2258	.216E+02	536	2218	.194E+02
358	2277	.228E+02	448	2258	.216E+02	538	2197	.183E+02
360	2277	.228E+02	450	2258	.216E+02	540	2197	.183E+02

TABLE 21 (CONTINUED)

D=1.5mm λ=1.05μm

t	T_b	B_λ	t	T_b	B_λ	t	T_b	B_λ
542	2218	.194E+02	632	2098	.136E+02	722	1924	.755E+01
544	2218	.194E+02	634	2125	.148E+02	724	1924	.755E+01
546	2197	.183E+02	636	2125	.148E+02	726	1924	.755E+01
548	2197	.183E+02	638	2069	.124E+02	728	1924	.755E+01
550	2197	.183E+02	640	2098	.136E+02	730	1924	.755E+01
552	2197	.183E+02	642	2098	.136E+02	732	1924	.755E+01
554	2197	.183E+02	644	2098	.136E+02	734	1924	.755E+01
556	2197	.183E+02	646	2069	.124E+02	736	1877	.630E+01
558	2197	.183E+02	648	2098	.136E+02	738	1877	.630E+01
560	2218	.194E+02	650	2098	.136E+02	740	1924	.755E+01
562	2197	.183E+02	652	2098	.136E+02	742	1877	.630E+01
564	2197	.183E+02	654	2069	.124E+02	744	1877	.630E+01
566	2197	.183E+02	656	2069	.124E+02	746	1877	.630E+01
568	2197	.183E+02	658	2069	.124E+02	748	1877	.630E+01
570	2197	.183E+02	660	2038	.112E+02	750	1877	.630E+01
572	2174	.171E+02	662	2038	.112E+02	752	1877	.630E+01
574	2174	.171E+02	664	2069	.124E+02	754	1877	.630E+01
576	2197	.183E+02	666	2038	.112E+02	756	1877	.630E+01
578	2174	.171E+02	668	2069	.124E+02	758	1822	.505E+01
580	2174	.171E+02	670	2038	.112E+02	760	1822	.505E+01
582	2174	.171E+02	672	2038	.112E+02	762	1822	.505E+01
584	2197	.183E+02	674	2038	.112E+02	764	1822	.505E+01
586	2197	.183E+02	676	2038	.112E+02	766	1822	.505E+01
588	2174	.171E+02	678	2004	.100E+02	768	1822	.505E+01
590	2174	.171E+02	680	2069	.124E+02	770	1754	.378E+01
592	2174	.171E+02	682	2004	.100E+02	772	1822	.505E+01
594	2174	.171E+02	684	2038	.112E+02	774	1822	.505E+01
596	2174	.171E+02	686	2004	.100E+02	776	1754	.378E+01
598	2174	.171E+02	688	2004	.100E+02	778	1754	.378E+01
600	2150	.160E+02	690	2004	.100E+02	780	1754	.378E+01
602	2150	.160E+02	692	2004	.100E+02	782	1754	.378E+01
604	2150	.160E+02	694	2004	.100E+02	784	1754	.378E+01
606	2150	.160E+02	696	1966	.878E+01	786	1754	.378E+01
608	2150	.160E+02	698	1966	.878E+01	788	1754	.378E+01
610	2150	.160E+02	700	2004	.100E+02	790	1754	.378E+01
612	2150	.160E+02	702	1966	.878E+01	792	1666	.251E+01
614	2150	.160E+02	704	1966	.878E+01	794	1754	.378E+01
616	2150	.160E+02	706	1966	.878E+01	796	1754	.378E+01
618	2150	.160E+02	708	1966	.878E+01	798	1666	.251E+01
620	2125	.148E+02	710	1966	.878E+01	800	1666	.251E+01
622	2125	.148E+02	712	1966	.878E+01	802	1666	.251E+01
624	2125	.148E+02	714	1966	.878E+01	804	1666	.251E+01
626	2150	.160E+02	716	1966	.878E+01			
628	2150	.160E+02	718	1966	.878E+01			
630	2125	.148E+02	720	1966	.878E+01			

TABLE 22

UNDERCOOLED PARTICLE

MDR—23

λ, μk	B	B
	D = 1.2 mm	D = 1.5 mm
0.26	0.00024	0.00022
0.28	0.00067	0.00066
0.3	0.00178	0.0014
0.32	0.00269	0.0036
0.35	0.0184	0.017
0.4	0.0969	0.093
0.45	0.351	
0.5	1.12	0.86
0.6	2.93	
0.7		7.47
0.8		10.9
0.9		15.6
1		18.7
1.05		19.4

TABLE 22(CONTINUED)

IKSS—2

CHANNAL 1

λ, μk	B	B
	D = 1.2 mm	D = 1.5 mm
0.359	0.0366	
0.365	0.0422	
0.372	0.0526	
0.378	0.0651	0.0528
0.385	0.0853	0.0622
0.392	0.0985	0.0653
0.398	0.112	0.103
0.405	0.148	0.111
0.412	0.156	0.15
0.418	0.181	0.171
0.425	0.219	0.197
0.431	0.261	0.226
0.438	0.284	0.278
0.445	0.336	0.311
0.451	0.387	0.361
0.458	0.431	0.417
0.465	0.529	0.474
0.471	0.55	0.549
0.478	0.629	0.627
0.475	0.709	0.701
0.491	0.732	0.776
0.498	0.841	0.857
0.504	0.957	0.979
0.511	1.03	1.04
0.518	1.2	1.17
0.524	1.28	1.3
0.531	1.45	1.45
0.538	1.52	1.57
0.544	1.56	1.67
0.551	1.76	1.87
0.557	1.91	2
0.564	2.02	2.25
0.571	2.2	2.3
0.577	2.3	2.49
0.584	2.51	2.68
0.591	2.67	2.98
0.597	2.75	3.04

TABLE 22(CONTINUED)

IKSS—2

CHANNAL 1

λ, μm	B_λ	B_λ
	D = 1.2 mm	D = 1.5 mm
0.604	3.05	3.26
0.611	3.14	3.45
0.617	3.32	3.84
0.624	3.5	3.79
0.63	3.68	4.02
0.637	3.93	4.48
0.644	4.05	4.54
0.65	4.22	5.02
0.657	4.16	5.03
0.664	4.38	5.16
0.67	5.11	5.99
0.677	5.44	6.33
0.683		6.6
0.69		6.46
0.697		6.7
0.703		6.62
0.71		7.02
0.717		6.83
0.723		7.5

TABLE 22(CONTINUED)

IKSS—2

CHANNAL 2

λ, μm	B_λ	B_λ
	D = 1.2 mm	D = 1.5 mm
0.622	3.73	
0.627	3.89	3.61
0.631	3.94	4.1
0.636	4.45	4.3
0.64	4.24	4.41
0.645	4.33	4.76
0.649	4.49	4.28
0.653	4.41	4.59
0.658	4.96	4.83
0.662	4.98	4.99
0.667	5.16	5.36
0.671	5.41	5.62
0.675	5.76	5.68
0.68	5.49	5.7
0.684	5.89	5.77
0.689	5.99	6.47
0.693	6.35	6.47
0.698	6.84	6.66
0.702	6.76	6.91
0.706	7.03	6.74
0.711	6.93	7.63
0.715	7.27	7.61
0.72	7.84	8.05
0.724	7.52	7.91
0.729	8.02	7.7
0.733	7.99	7.78
0.737	7.52	8.17
0.742	7.5	8.47
0.746	8.36	8.87
0.751	8.07	9.09
0.755	8.9	8.87
0.76	8.84	9.59
0.764	8.81	9.43
0.768	9.75	9.81
0.773	9.65	10.9
0.777	10.4	10.5
0.782	9.11	11.6

TABLE 22 (CONTINUED)

IKSS—2

CHANNAL 2

λ, μm	B_λ	B_λ
	D = 1.2 mm	D = 1.5 mm
0.786	9.99	11.6
0.791	10.5	10.4
0.795	10.7	11.9
0.799	10.7	11.8
0.804	9.93	12.9
0.808	12.4	12.1
0.813	10.9	13.2
0.817	11.5	11.7
0.822		12.9
0.826	11.3	11.2
0.83	11.3	12.6
0.835	11.9	
0.839	11.7	11.9
1.043	17.4	
1.059	17.3	18.4
1.075	17.3	18.3
1.091	17.3	17.7
1.107	16.6	17.4
1.123	15.6	17.4
1.139	15.4	18
1.155	15	17.9
1.171	14.8	17.6
1.187	15.7	17.8
1.203	15.9	17.7
1.219	15.8	18.2
1.235	15.2	17.8
1.251	15	17.7
1.267	14.4	17.7
1.283	14.6	17.7
1.299	14.4	17.2
1.315	14.8	17.5
1.331	14.6	17.4
1.347	14.2	16.6
1.363	14.1	16.7
1.379	13.9	16.7
1.395	13.4	16.3
1.411	13.4	16.6

TABLE 22 (CONTINUED)

IKSS—2

CHANNAL 2

λ, μm	B_λ	B_λ
	D = 1.2 mm	D = 1.5 mm
1.427	13.6	16.5
1.443	13.6	16.2
1.459	13.6	16.3
1.475	13.5	16.1
1.491	13.3	15.7
1.507	12.9	15.7
1.523	12.3	15.4
1.539	11.9	15.4
1.555	11.6	15.5
1.571	11.4	14.9
1.587	11.1	14.9
1.603	10.2	13.7
1.619	9.68	13.6
1.635	9.56	13.4
1.651	8.4	13

TABLE 23

PARTICLE IN 3-PHASE

MDR—23

λ, μm	B_λ	B_λ
	D = 1.2 mm	D = 1.5 mm
0.26	0.000354	0.00048
0.28	0.00143	0.0013
0.3	0.00416	0.003
0.32	0.00694	0.0068
0.35	0.0299	0.0258
0.4	0.158	0.13
0.45	0.553	
0.5	1.28	1.12
0.6	3.78	
0.7		8.33
0.8		13.1
0.9		17.8
1		22.6
1.05		23.4

TABLE 23 (CONTINUED)

IKSS—2

CHANNAL 1

λ, μm	B_λ	B_λ
	D = 1.2 mm	D = 1.5 mm
0.352	0.0347	
0.359	0.0377	
0.365	0.0417	
0.372	0.0807	
0.378	0.106	0.0957
0.385	0.0987	
0.392	0.115	0.141
0.398	0.129	0.167
0.405	0.16	0.205
0.412	0.206	0.223
0.418	0.247	0.258
0.425	0.312	0.309
0.431	0.341	0.378
0.438	0.405	0.425
0.445	0.465	0.485
0.451	0.495	0.581
0.458	0.61	0.64
0.465	0.643	0.726
0.471	0.822	0.864
0.478	0.863	0.954
0.485	0.915	1.04
0.491	1.01	1.14
0.498	1.15	1.29
0.504	1.24	1.41
0.511	1.39	1.57
0.518	1.54	1.68
0.524	1.64	1.86
0.531	1.88	2.03
0.538	1.88	2.21
0.544	2.04	2.44
0.551	2.22	2.56
0.557	2.43	2.76
0.564	2.6	
0.571	2.84	3.17
0.577	3.03	3.44
0.584	3.16	3.68
0.591	3.43	3.92

TABLE 23 (CONTINUED)

IKSS—2

CHANNAL 1

λ, μm	B_λ	B_λ
	D = 1.2 mm	D = 1.5 mm
0.597	3.55	
0.604	3.79	4.34
0.611	3.86	4.64
0.617	4.42	4.88
0.624	4.47	5.11
0.63	4.67	5.54
0.637	4.86	5.83
0.644	5.12	5.97
0.65	5.35	6.42
0.657	5.36	
0.664	5.7	7.03
0.67	6.27	
0.677	6.83	
0.683	7.11	
0.69	7.68	8.51
0.697	6.94	8.58
0.703	7.05	8.5
0.71	7.21	
0.717	7.36	9.09
0.723	7.34	9.9
0.73	8.62	
0.736	7.43	
0.743	8.17	10.4

TABLE 23 (CONTINUED)

IKSS—2

CHANNAL 2

λ, μm	B_λ	B_λ
	D = 1.2 mm	D = 1.5 mm
0.614		3.96
0.618		4.15
0.622		4.09
0.627		4.22
0.631		4.52
0.636	4.95	4.83
0.64	5.17	4.73
0.645	5.13	4.77
0.649	5.54	5.01
0.653	5.64	5.47
0.658	6.11	5.6
0.662	5.55	5.88
0.667	6.17	5.75
0.671	6.28	6.24
0.675	6.77	6.1
0.68	6.65	6.64
0.684	6.89	6.6
0.689	7.22	7.23
0.693	7.68	7.23
0.698	7.61	7.31
0.702	7.84	7.74
0.706	7.72	7.55
0.711	7.77	8.08
0.715	8.41	8.35
0.72	8.51	8.22
0.724	9.07	8.61
0.729	8.36	9.3
0.733	9.56	8.99
0.737	8.51	8.58
0.742	8.98	9.32
0.746	9.2	
0.751	9.32	10.6
0.755	9.98	9.31
0.76	11.4	9.83
0.764	10.1	10.3
0.768	10.2	10.4
0.773	10.5	

TABLE 23 (CONTINUED)

IKSS—2

CHANNAL 2

λ, μk	B	B
	D = 1.2 mm	D = 1.5 mm
0.777	9.41	11.5
0.782	12.8	
0.786	11.9	10.5
0.791	10.3	11.7
0.795	12.3	10.9
0.799	11.9	
0.804	12	
0.808	11.8	11.1
0.813	12	11.4
0.817		12
0.835		12.9
1.043	23.6	
1.059	22.6	
1.075	23.2	
1.091	20.6	
1.107	20.8	
1.123	20.7	25.7
1.139	20.1	24.3
1.155	19.7	22.6
1.171	20.2	26.0
1.187	19.5	20.3
1.203	20.6	24.5
1.219	19.9	22.4
1.235	20.2	22
1.251	19.2	20
1.267	19.5	21.4
1.283	19.2	20.7
1.299	18.8	22.5
1.315	19.3	21.4
1.331	19.1	21.5
1.347	18.5	20.5
1.363	18	19.6
1.379	18.5	20.2
1.395	17.8	19.4
1.411	18.2	20.4
1.427	17.9	21.7
1.443	17.5	19.7

TABLE 23 (CONTINUED)

IKSS—2

CHANNAL 2

λ, μm	B_λ	B_λ
	D = 1.2 mm	D = 1.5 mm
1.459	17.5	20.5
1.475	17.3	20.6
1.491	17.1	20.7
1.507	16.7	19.4
1.523	16.5	17.6
1.539	16.4	18.2
1.555	16.1	17.2
1.571	16.3	17.5
1.587	15.3	17.9
1.603	14.5	15.5
1.619	13.7	16.4
1.635	14	15.7
1.651	14.9	15.9
1.667	14.1	
1.683	13.5	

Table 24

The real temperature measurement.

Particle state	T_R	$T_{0.26}$	$T_{0.63}$
Undercooled state	2240 ± 12	2310 ± 15 MDR-23	2238 ± 12 MDR-23 2240 ± 12 IKSS-2
Stationary state	–	2310 ± 25 MDR-23	2294 ± 12 MDR-23 2302 ± 15 IKSS-2
The crystallization wave moving along the particle surface	2240 ± 12	2272 ± 25 MDR-23	2294 ± 12 MDR-23 2306 ± 15 IKSS-2
"$\gamma \rightarrow \alpha$" transition in the particle volume	–	≈ 2327 MDR-23	2240 ± 12 MDR-23
By the end of "liquid → → γ" transition in the particle	–	2300 ± 15 MDR-23	–

Table 25

Al_2O_3 (γ)

	D = 1.2 mm		D = 1.5 mm	
λ, μm	B_λ	T_b,K	B_λ	T_b,K
0.26	2.98 E-4	2283	2.98 E-4	2283
0.32	5.78 E-3	2222	6.52 E-3	2235
0.35	2.71 E-2	2253	3.61 E-2	2290

Table 26

λ = 0.3 μm, D = 1.5mm

	Al_2O_3(liq)			Al_2O_3(γ)		
N	X,mm	B_λ	T_b, K	X,mm	B_λ	T_b, K
2	0.08	1.89 E-2	2475	0.60	2.86 E-3	2256
4	0.16	1.80 E-2	2469	0.72	2.26 E-3	2231
6	0.24	1.71 E-2	2463	0.84	2.32 E-3	2234
8	0.32	1.51 E-2	2447	0.96	2.23 E-3	2230
9	0.36	1.35 E-2	2433	1.08	2.35 E-3	2235
11	0.44	1.06 E-2	2404	1.20	1.92 E-3	2214
12	0.48	3.45 E-2	2362	1.32	1.58 E-3	2194
13	0.52	5.01 E-3	2317	1.44	1.15 E-3	2163

Table 27

λ = 0.6 μm, D = 1.5 mm

	Al_2O_3(liq)				Al_2O_3(α)		
X,mm	B_λ	T_b,K	Xmm	B_λ	T ,K	ε_λ	κ_λ
0.08	7.63 E+0	2421	0.72	1.53 E+0	2293	0.35 E+0	1.5 E-5
0.16	7.85 E+0	2427	0.80	1.53 E+0	2293	0.35 E+0	1.5 E-5
0.24	7.78 E+0	2425	0.88	1.53 E+0	2293	0.35 E+0	1.5 E-5
0.32	7.42 E+0	2414	0.96	1.53 E+0	2293	0.35 E+0	1.5 E-5
0.4	6.73 E+0	2390	1.04	1.53 E+0	2293	0.35 E+0	1.5 E-5
0.48	5.68 E+0	2351	1.12	1.46 E+0	2236	0.43 E+0	1.3 E-5
			1.20	1.34 E+0	2223	0.43 E+0	1.3 E-5
			1.28	1.17 E+0	2211	0.39 E+0	1.7 E-5
			1.36	1.02 E+0	2194	0.37 E+0	1.6 E-5
			1.44	9.53 E -1	2181	0.30 E+0	1.2 E-5

TABLES

OF THE ABSORPTIVE COEFFICIENTS K(λ) IN cm^{-1}, ABSORPTIVE INDEXES κ AND RATE CONSTANTS OF PHASE TRANSFORMATION

Al_2O_3 (γ) → Al_2O_3 (α)

Specifications:

T - real temperature, K

λ - wavelength, μm

K_λ - spectral absorptive coefficient, cm^{-1}

κ_λ - spectral absorptive index

b - rate constant of phase transformation

Al_2O_3 (γ) → Al_2O_3 (α) , s^{-1}

Table 28

Al_2O_3 , T = 2240 K

Undercooled particle

λ ,μm	ε_λ (D=1.2 mm)	ε_λ (D=1.5 mm)	K_λ ,cm^{-1}	κ_λ
0.28	0.862	0.860	26.3	$5.87 \cdot 10^{-5}$
0.30	0.723	0.700	13.5	$3.22 \cdot 10^{-5}$
0.32	0.510	0.518	6.93	$1.76 \cdot 10^{-5}$
0.35	0.860	0.700	25.0	$6.96 \cdot 10^{-5}$
0.40	0.785	0.753	10.8	$3.44 \cdot 10^{-5}$
0.45	0.856	0.870	23.8	$8.53 \cdot 10^{-5}$
0.50	0.867	0.873	22.0	$8.78 \cdot 10^{-5}$
0.60	0.835	0.901	38.4	$1.83 \cdot 10^{-4}$
0.80	-	0.891	26.0	$1.04 \cdot 10^{-4}$
0.90	0.851	0.881	22.7	$1.52 \cdot 10^{-4}$
1.00	0.840	0.881	22.7	$1.52 \cdot 10^{-4}$
1.05	0.838	0.882	22.8	$1.92 \cdot 10^{-4}$
1.10	0.720	0.800	14.2	$1.25 \cdot 10^{-4}$
1.20	0.695	0.778	9.74	$9.30 \cdot 10^{-5}$
1.30	0.628	0.772	9.21	$9.53 \cdot 10^{-5}$
1.40	0.589	0.734	8.12	$9.05 \cdot 10^{-5}$
1.50	0.603	0.718	8.07	$9.64 \cdot 10^{-5}$
1.60	0.488	0.658	6.36	$8.10 \cdot 10^{-5}$

Table 28(cont.)

Al_2O_3 , T = 2310 K

Particle in the 3-rd phase

λ ,μm	ε_λ (D=1.2 mm)	ε_λ (D=1.5 mm)	K_λ ,cm^{-1}	κ_λ
0.28	-	0.947	-	-
0.30	0.882	0.888	20	$4.71 \cdot 10^{-5}$
0.32	0.555	0.609	7.10	$1.80 \cdot 10^{-5}$
0.35	0.706	0.746	7.46	$2.07 \cdot 10^{-5}$
0.40	0.734	0.647	8.41	$3.36 \cdot 10^{-5}$
0.45	0.839	0.890	22.5	$8.06 \cdot 10^{-5}$
0.50	0.827	0.888	24.8	$9.87 \cdot 10^{-5}$
0.55	0.768	0.891	21.9	$9.58 \cdot 10^{-5}$
0.60	0.788	0.888	20.5	$9.79 \cdot 10^{-5}$
0.65	0.744	0.883	23.4	$1.21 \cdot 10^{-4}$
0.70	0.716	0.875	20.7	$1.15 \cdot 10^{-4}$
0.75	0.763	0.853	16.2	$9.67 \cdot 10^{-5}$
0.80	0.787	0.867	20.3	$1.29 \cdot 10^{-4}$
0.90	0.836	0.893	26.3	$1.88 \cdot 10^{-4}$
1.00	0.903	0.957	-	-
1.05	0.903	0.935	33.3	$2.78 \cdot 10^{-4}$
1.10	0.803	-	17.8	$1.55 \cdot 10^{-4}$
1.20	0.735	0.825	13.9	$1.32 \cdot 10^{-4}$
1.30	0.707	0.818	13.5	$1.39 \cdot 10^{-4}$
1.40	0.688	0.760	11.8	$1.31 \cdot 10^{-4}$
1.50	0.689	0.799	11.7	$1.39 \cdot 10^{-4}$
1.60	0.614	0.703	9.63	$1.22 \cdot 10^{-4}$

Table 29

Al_2O_3 (γ) , T=2310 K

λ , μm	K_λ , cm^{-1}	κ_λ
0.3	79.6	$1.90 \cdot 10^{-4}$
0.35	38.1	$1.05 \cdot 10^{-4}$
0.40	47.1	$1.50 \cdot 10^{-4}$
0.50	29.2	$1.20 \cdot 10^{-4}$
0.60	66.6	$3.20 \cdot 10^{-4}$
0.70	31.2	$1.70 \cdot 10^{-4}$
0.80	33.5	$2.10 \cdot 10^{-4}$
0.90	36.4	$2.64 \cdot 10^{-4}$
1.00	44.4	$3.58 \cdot 10^{-4}$
1.05	32.1	$2.68 \cdot 10^{-4}$

$b = (1.04 \pm 0.12) \cdot 10^{12}$, s^{-1}